2, L0650: 2, L0774: 2,
L0775: 2, L0375: 2, L0776:
2, L0513: 2, L0526: 2,
L0518: 2, L0382: 2, L0541:
2, L0664: 2, H0521: 2,
L0741: 2, L0743: 2, L0744:
2, L0745: 2, L0731: 2,
L0361: 2, L0601: 2, H0668:
2, H0170: 1, H0556: 1,
H0716: 1, S0212: 1, H0484:
1, S0356: 1, S0354: 1,
S0444: 1, H0580: 1, S0007:
1, L0717: 1, S0278: 1,
S0222: 1, S6014: 1, H0392:
1, H0438: 1, H0587: 1,
H0497: 1, H0574: 1, H0559:
1, H0486: 1, H0013: 1,
H0427: 1, H0156: 1, L0021:
1, H0590: 1, H0618: 1,
S0010: 1, H0194: 1, H0309:
1, H0544: 1, H0546: 1,
H0150: 1, H0011: 1, H0510:
1, H0375: 1, S6028: 1,
H0687: 1, H0039: 1, H0181:
1, H0617: 1, H0673: 1,
S0364: 1, H0708: 1, S0038:
1, T0041: 1, T0042: 1,
L0475: 1, H0560: 1, H0625:
1, H0131: 1, H0646: 1,
S0210: 1, L0762: 1, L0763:

1290	HSYDY88	904381	1300	161 - 1861	2705			325-345
					Ser-16 to Ala-29, Asp-49 to Ser-54, Pro-78 to Ala-86, Arg-113 to Gly-120, Gly-170 to Pro-194, Ala-220 to Ser-227, Asp-256 to Pro-261, Glu-300 to Glu-305, Gly-322 to Pro-328, Tyr-389 to Glu-399, Gln-423 to Glu-431,	AR061: 4, AR089: 3, AR033: 3, AR104: 2, AR053: 2, AR096: 1, AR060: 1, AR052: 0, AR039: 0, AR055: 0 H0124: 28, H0013: 8, H0547: 4, H0144: 3, L0595: 3, H0390: 2, S0346: 2, H0012: 2, L0565: 2, L0777: 2, S0001: 1, S0282: 1, S0442: 1, H0619: 1, S0222:	1, L0770: 1, L0796: 1, L3904: 1, L5565: 1, L3905: 1, L0761: 1, L0772: 1, L0645: 1, L0662: 1, L0363: 1, L0768: 1, L0794: 1, L0804: 1, L0806: 1, L0805: 1, L0653: 1, L0493: 1, L0517: 1, L0782: 1, L0783: 1, L0647: 1, L0789: 1, L0790: 1, H0593: 1, H0689: 1, H0690: 1, S0330: 1, S0044: 1, H0694: 1, H0555: 1, H0626: 1, L0756: 1, L0753: 1, L0755: 1, H0445: 1, S0434: 1, L0592: 1, L0608: 1, L0593: 1, S0196: 1, H0543: 1, H0422: 1, S0424: 1, S0456: 1, H0506: 1 and H0008: 1.	

1291	HHFCW31	904399	1301	395 - 1516	2706	Asp-488 to Gly-494, Arg-507 to Ile-512, Ser-515 to Arg-521, Ser-548 to Asn-554.	1, H0333: 1, T0039: 1, S0010: 1, S0049: 1, H0052: 1, H0546: 1, H0178: 1, H0566: 1, H0081: 1, H0024: 1, S0388: 1, S0051: 1, H0292: 1, H0135: 1, H0591: 1, H0087: 1, H0551: 1, S0038: 1, H0100: 1, L0770: 1, L0521: 1, L0651: 1, L0543: 1, L0664: 1, H0520: 1, S3012: 1, S0028: 1, L0439: 1, L0759: 1, H0445: 1, L0592: 1, L0599: 1 and H0352: 1.	316-346, 12-40, 306-322
						Ser-6 to Ser-12, Cys-56 to Asp-65, Asn-72 to Glu-79, Lys-94 to Tyr-99, Asn-106 to Tyr-115, Glu-149 to Thr-161, Cys-186 to Phe-191, Ser-197 to Asp-203, Cys-213 to Lys-218, Arg-226 to His-241, Glu-249 to Arg-259, Cys-265 to Phe-272, Pro-287 to Tyr-305, Arg-343 to Ser-370.	AR055: 2, AR060: 1, AR089: 1, AR096: 0, AR033: 0, AR053: 0, AR061: 0, AR039: 0, AR052: 0, AR104: 0 H0674: 3, L0439: 3, L0435: 2, L0540: 2, L0438: 2, L0756: 2, L0759: 2, H0170: 1, H0599: 1, H0178: 1, H0572: 1, H0050: 1, S6028: 1, H0673: 1, L0809: 1, L0666: 1, H0519: 1, S0126: 1, H0696: 1, H0694: 1, L0742: 1 and L0777: 1.	
1292	HEOPR46	904471	1302	215 -	2707	Arg-40 to Asp-46,	AR052: 37, AR096: 34,	69-94, 21-

1293	HDPIF47	904473	1303	598	Gln-106 to Ala-114.	AR053: 21, AR089: 17, AR033: 15, AR104: 14, AR039: 11, AR060: 10, AR061: 2, AR055: 1 H0457: 4, L0766: 3, L0771: 2, L0789: 2, H0556: 1, H0656: 1, H0486: 1, H0009: 1, L0646: 1, L0768: 1, L0794: 1, L0655: 1, L0809: 1, H0701: 1, L0747: 1, L0758: 1, H0707: 1 and H0542: 1.	37, 88-104, 49-65, 1-17
				2708	Met-1 to Ala-8, Gly-15 to Gly-22.	AR096: 5, AR052: 4, AR039: 3, AR053: 3, AR089: 3, AR033: 2, AR060: 2, AR055: 2, AR104: 2, AR061: 1 S0474: 19, L0766: 11, H0521: 10, L0803: 6, L0748: 6, L0717: 5, L0759: 5, S0003: 4, H0663: 3, H0156: 3, L0598: 3, L0771: 3, L0804: 3, H0522: 3, L0731: 3, S0436: 3, H0486: 2, S0426: 2, L0770: 2, L0659: 2, S0126: 2, S0406: 2, L0749: 2, L0755: 2, L0757: 2, L0758: 2, L0590: 2, S0026: 2, H0716: 1, H0341: 1, S0212: 1, L0481:	415-443, 257-290, 108-135, 41-60, 209-236, 354-377, 329-351, 394-414, 306-323, 92-109, 131-147
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1294	HKAIP13	904639	1304	823 - 1938	2709		247-276
					Arg-26 to Cys-32, Val-108 to Lys-132, Glu-193 to Tyr-198, Pro-232 to Asn-249,	1, S0444: 1, S0360: 1, H0637: 1, H0580: 1, H0734: 1, H0619: 1, H0586: 1, H0574: 1, H0427: 1, L0021: 1, H0575: 1, H0318: 1, H0545: 1, H0024: 1, H0373: 1, H0071: 1, H0179: 1, S0214: 1, H0428: 1, H0674: 1, H0591: 1, H0616: 1, H0488: 1, H0494: 1, S0438: 1, S0440: 1, H0647: 1, S0142: 1, UNKWN: 1, L0369: 1, L0763: 1, L0769: 1, L0646: 1, L0648: 1, L0662: 1, L0650: 1, L0775: 1, L0805: 1, L0653: 1, L0776: 1, L0656: 1, L0782: 1, L0809: 1, L0519: 1, S0052: 1, H0144: 1, H0520: 1, H0547: 1, H0660: 1, S0380: 1, L0742: 1, L0439: 1, L0750: 1, L0777: 1, S0031: 1, H0445: 1, S0434: 1, H0665: 1, H0667: 1, S0194: 1, S0276: 1 and S0458: 1. AR052: 5, AR089: 4, AR039: 4, AR104: 3, AR053: 3, AR060: 3, AR033: 2, AR096: 2,	

						Asn-285 to Asp-297, Ala-301 to Ser-308, Tyr-346 to Gly-363, Pro-365 to Ser-372.	AR061: 2, AR055: 2 L0747: 4, L0749: 4, L0748: 3, L0777: 3, S0356: 2, L0803: 2, H0547: 2, H0574: 1, H0510: 1, H0059: 1, H0494: 1, H0520: 1, H0672: 1, L0752: 1, L0595: 1 and S0026: 1.	
1295	HLWEP76	904673	1305	151 - 1740	2710	Ser-23 to Gln-40, Pro-140 to Tyr-145, Glu-175 to Ala-182, Thr-229 to Lys-240, Arg-265 to Glu-277, Gly-454 to Cys-460, Ile-494 to Lys-504, Gly-517 to Thr-524.	AR096: 4, AR033: 3, AR039: 2, AR061: 2, AR104: 2, AR052: 1, AR055: 1, AR060: 1, AR089: 0 H0553: 8, L0754: 8, L0603: 8, L0794: 6, L0758: 6, L0809: 5, S0358: 4, L0769: 4, H0030: 3, L0755: 3, H0265: 2, H0556: 2, S0278: 2, H0549: 2, L0789: 2, L0438: 2, L0750: 2, H0722: 1, S0132: 1, H0550: 1, H0586: 1, H0486: 1, H0635: 1, L0022: 1, H0318: 1, H0310: 1, H0052: 1, H0150: 1, H0009: 1, H0622: 1, H0031: 1, H0040: 1, H0494: 1, H0641: 1, H0647: 1, L0643: 1, L0764: 1, L0649: 1, L0804: 1, L0659: 1, L0793: 1, L0747: 1,	238-266, 465-494, 357-378, 378-405, 114-136, 293-310, 329-347, 57-73, 146-162, 425-441, 188-204, 79-95

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1296	HTLIT05	904861	1306	153 - 1040	2711	Leu-24 to Thr-31, Lys-92 to Leu-99, Arg-111 to Trp-116, Arg-118 to Thr-128, Thr-162 to Asn-168, Thr-198 to Asp-204.	L0756: 1, S0260: 1, H0665: 1 and L0698: 1. AR089: 9, AR096: 7, AR060: 5, AR053: 5, AR039: 5, AR055: 4, AR052: 4, AR104: 3, AR061: 3, AR033: 3 H0618: 2, H0040: 1 and H0522: 1.	36-55, 261-281, 204-220
1297	HPTZB93	904877	1307	267 - 935	2712	Asn-24 to Gly-34, Ala-42 to His-57, Trp-68 to Tyr-76, Pro-88 to Gly-94, Phe-109 to Glu-122, Gln-152 to Asp-161, Leu-207 to Gly-215.	AR052: 49, AR096: 44, AR053: 39, AR089: 34, AR039: 30, AR061: 27, AR104: 23, AR055: 21, AR033: 20, AR060: 18 L0805: 50, L0776: 30, L0789: 8, L0750: 4, L0769: 3, L0809: 3, H0424: 2, L0794: 2, L0731: 2, H0231: 1, H0213: 1, H0418: 1, S0370: 1, L0768: 1, L0659: 1, L0788: 1, L0779: 1 and L0758: 1.	170-186, 6-22, 134-150, 93-109
1298	HWLAJ33	904911	1308	270 - 887	2713	Pro-22 to Gly-28, Gln-32 to Gln-38, Ser-105 to Phe-113, Cys-149 to Tyr-155, Ser-186 to His-193, Gln-196 to Trp-205.	AR053: 197, AR052: 188, AR096: 184, AR089: 119, AR104: 98, AR039: 83, AR060: 77, AR033: 73, AR061: 57, AR055: 49 L0748: 5, H0581: 4, H0393: 3, H0250: 2, S0374:	42-72, 87-105, 125-141

| 1299 | HAGFD47 | 904977 | 1309 | 357 - 1154 | 2714 | Thr-187 to Lys-192, Asn-255 to Leu-262. | AR096: 15, AR053: 12, AR060: 8, AR052: 7, AR089: 7, AR039: 6, AR033: 5, AR055: 5, AR061: 4, AR104: 3 L0439: 6, L0748: 5, L0770: 4, L0771: 4, L0740: 4, H0341: 2, H0596: 2, H0373: 2, H0266: 2, L0766: 2, L0775: 2, L0659: 2, L0663: 2, L0665: 2, S0027: 2, L0601: 2, H0624: 1, H0717: 1, S0114: 1, L0415: 1, L0760: 1, S0116: 1, H0722: 1, H0733: 1, H0411: 1, H0497: 1, H0486: 1, H0427: 1, L0021: 1, S0010: 1, H0318: 1, H0581: 1, H0421: 1, H0744: 1, T0110: 1, H0597: 1, S0003: 1, H0068: 1, H0551: 1, S0440: 1, H0633: 1, S0422: 1, | 2, S0354: 1, H0586: 1, H0013: 1, H0004: 1, H0421: 1, H0031: 1, H0644: 1, H0634: 1, S0144: 1, S0344: 1, L0766: 1, L0657: 1, L0659: 1, H0518: 1, S0044: 1, H0555: 1, L0752: 1 and L0755: 1. | | | 92-112, 51-74, 153-179, 13-31, 121-137 |

| 1300 | HSKAS66 | 905017 | 1310 | 106 - 762 | 2715 | Ser-4 to Arg-9, Phe-24 to Tyr-35, Ala-37 to Gly-42, Val-123 to Thr-129, Thr-162 to Ser-167. | AR033: 6, AR061: 4, AR055: 3, AR089: 3, AR096: 3, AR053: 2, AR060: 2, AR052: 2, AR039: 1, AR104: 1 H0529: 8, L0794: 5, S0424: 4, H0559: 3, H0083: 3, L0769: 3, L0809: 3, L0748: 3, L0759: 3, S0192: 3, H0341: 2, H0587: 2, H0266: 2, H0286: 2, H0623: 2, S0422: 2, L0761: 2, L0783: 2, L0565: 2, L0745: 2, L0756: 2, L0777: 2, H0665: 2, H0739: 1, H0265: 1, H0685: 1, H0657: 1, H0484: 1, S0420: 1, S0358: 1, H0592: 1, H0013: 1, H0427: 1, L0021: 1, S0474: 1, H0581: 1, H0597: 1, | S0002: 1, L0763: 1, L0772: 1, L0764: 1, L0773: 1, L0387: 1, L0650: 1, L0655: 1, L0783: 1, L0384: 1, L0529: 1, L0666: 1, H0691: 1, L0438: 1, H0547: 1, H0670: 1, L0754: 1, L0747: 1, L0755: 1, L0758: 1, S0031: 1, H0665: 1, S0276: 1 and H0543: 1. | 141-162, 176-194 |

| 1301 | HOFNT25 | 905050 | 1311 | 2158 - 3012 | 2716 | Glu-8 to Glu-13, Ser-61 to Gly-71, His-118 to Gly-125, Gly-154 to Gln-160, Pro-171 to Arg-177, Arg-200 to Trp-207, Pro-214 to Val-224, Arg-240 to Ser-247. | H0546: 1, H0046: 1, H0086: 1, H0024: 1, H0604: 1, H0181: 1, H0272: 1, S0438: 1, H0647: 1, S0144: 1, L0639: 1, L0372: 1, L0800: 1, L0644: 1, L0766: 1, L0803: 1, L0382: 1, L0787: 1, L0788: 1, L0663: 1, S0374: 1, H0547: 1, H0593: 1, H0521: 1, H0522: 1, S3014: 1, S0027: 1, L0740: 1, L0751: 1, L0746: 1, L0749: 1, L0779: 1, L0757: 1 and S0436: 1. | AR096: 2, AR052: 1, AR060: 1, AR033: 1, AR089: 0, AR061: 0, AR104: 0, AR039: 0, AR055: 0, AR053: 0 L0747: 15, L0758: 7, L0740: 5, L0779: 5, L0534: 3, S0442: 3, S0360: 3, L0769: 3, L0764: 3, L0775: 3, L0776: 3, S0126: 3, L0596: 3, H0663: 2, S0474: 2, H0457: 2, L0157: 2, H0620: 2, L0483: 2, L0803: 2, L0666: 2, L0438: 2, H0696: 2, L0749: 2, L0750: 2, L0756: 2, L0589: 2, | 177-197, 126-142 |

L0366: 2, H0624: 1, S0030: 1, H0306: 1, H0402: 1, S0418: 1, S0358: 1, H0441: 1, H0392: 1, H0415: 1, H0333: 1, H0486: 1, H0013: 1, H0427: 1, H0156: 1, H0599: 1, H0318: 1, H0581: 1, H0421: 1, S0049: 1, H0196: 1, H0052: 1, L0040: 1, H0546: 1, L0471: 1, H0014: 1, H0051: 1, H0375: 1, S0003: 1, H0644: 1, L0142: 1, L0143: 1, H0673: 1, H0038: 1, H0040: 1, H0616: 1, S0306: 1, H0207: 1, S0002: 1, H0695: 1, L0638: 1, L0662: 1, L0387: 1, L0766: 1, L0774: 1, L0375: 1, L0807: 1, L0783: 1, L0793: 1, L0664: 1, H0723: 1, H0547: 1, H0689: 1, H0648: 1, H0672: 1, S0328: 1, H0539: 1, L0602: 1, S0152: 1, H0555: 1, H0436: 1, H0540: 1, S0027: 1, L0748: 1, L0754: 1, L0752: 1, L0755: 1, L0757: 1, L0759: 1, L0608: 1, L0362: 1, H0668: 1, H0665: 1, S0194: 1, H0423: 1 and

1302	HWBDL33	905114	1312	545 - 1288	2717	Gln-23 to Lys-39, Glu-150 to Thr-158.	S0456: 1. AR096: 18, AR053: 11, AR089: 11, AR039: 11, AR060: 8, AR033: 7, AR104: 7, AR055: 5, AR052: 5, AR061: 4 L0748: 11, H0580: 7, H0575: 7, H0031: 5, H0581: 4, H0522: 4, L0731: 4, S0376: 3, H0529: 3, H0521: 3, S0354: 2, H0427: 2, H0590: 2, T0023: 2, H0090: 2, H0710: 2, H0555: 2, L0751: 2, L0759: 2, S0356: 1, S0444: 1, H0645: 1, H0392: 1, H0587: 1, H0497: 1, H0486: 1, H0250: 1, S0280: 1, H0042: 1, H0318: 1, H0014: 1, H0644: 1, H0068: 1, S0142: 1, L0794: 1, L0805: 1, L0776: 1, S0374: 1, S0380: 1, L0754: 1, L0758: 1, H0445: 1, H0595: 1, S0434: 1, L0362: 1, H0653: 1 and S0424: 1.	178-207, 43-72, 115-138, 87-104
1303	HAABQ61	905116	1313	100 - 1068	2718	Met-1 to Ser-12, Gln-18 to Cys-23, Glu-46 to His-52, Thr-262 to Lys-268.	AR053: 9, AR052: 8, AR096: 6, AR039: 6, AR055: 5, AR089: 5, AR060: 4, AR033: 3,	267-295, 211-238, 236-260, 123-144,

| 1304 | HFPFA83 | 905151 | 1314 | 202-642 | 2719 | Thr-4 to Val-11. | AR104: 3, AR061: 3 S0410: 14, L0743: 6, L0665: 5, H0521: 3, H0341: 2, H0069: 2, H0271: 2, S0440: 2, L0761: 2, S0406: 2, L0747: 2, L0756: 2, H0664: 1, S0356: 1, H0734: 1, H0619: 1, H0586: 1, H0635: 1, S0280: 1, T0048: 1, H0581: 1, H0105: 1, H0264: 1, H0494: 1, H0641: 1, H0646: 1, L0770: 1, L0637: 1, L0800: 1, L0773: 1, L0648: 1, L0662: 1, L0768: 1, L0766: 1, L0649: 1, L0375: 1, L0784: 1, L0806: 1, L0655: 1, L0809: 1, H0435: 1, H0672: 1, H0555: 1, L0749: 1, L0750: 1, H0445: 1, S0434: 1 and H0506: 1. | | 159-178, 192-208 |
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1305	HFIDN52	905157	1315	307 - 1332	2720		190-217, 282-298
					Thr-79 to Asn-84, Gly-118 to Arg-127, Lys-141 to Pro-147, Phe-234 to Gln-243, Gln-256 to Asn-270.	AR089: 15, AR104: 11, AR052: 10, AR033: 10, AR096: 8, AR053: 7, AR060: 7, AR055: 6, AR039: 6, AR061: 4 H0038: 12, H0616: 9, L0749: 8, L0758: 8, L0748: 7, H0046: 6, L0777: 6, H0341: 4, L0774: 4, L0809: 4, L0754: 4, L0747: 4, L0752: 4, L0757: 4, H0510: 3, S0438: 3, L0764: 3, L0666: 3, H0547: 3, S0152: 3, L0439: 3, S0436: 3, S0442: 2, H0619: 2, S0222: 2, H0575: 2, H0083: 2, H0644: 2, H0551: 2, S0142: 2, L0770: 2, L0775: 2, S0380: 2, L0759: 2, L0362: 2, H0542: 2, H0423: 2, H0624: 1, S0040: 1, H0716: 1, S0134: 1, S0116: 1, S0282: 1, H0663: 1, H0458: 1, H0638: 1, S0418: 1, S0358: 1, S0376: 1, S0360: 1, H0730: 1, H0728: 1, H0431: 1, H0403: 1, H0592: 1, H0331: 1, H0574: 1, H0250: 1, S0280: 1, S0010: 1, S0346: 1, H0581: 1,	

1306	HAHSE23	905257	1316	48 - 749	2721	Clones	Domains	AR	Exons
						H0327: 1, H0546: 1, S0050: 1, H0355: 1, S0250: 1, S0003: 1, H0252: 1, H0428: 1, T0006: 1, H0617: 1, H0032: 1, H0169: 1, L0455: 1, S0366: 1, H0591: 1, H0268: 1, S0038: 1, T0041: 1, H0714: 1, S0440: 1, H0633: 1, S0144: 1, S0422: 1, H0529: 1, L0369: 1, L0769: 1, L0772: 1, L4500: 1, L0651: 1, L0606: 1, L0657: 1, L0659: 1, L0530: 1, L0791: 1, L0792: 1, L0793: 1, H0144: 1, S0374: 1, H0723: 1, H0519: 1, H0539: 1, H0710: 1, H0709: 1, H0522: 1, S0013: 1, S0206: 1, L0755: 1, L0592: 1, L0366: 1, H0665: 1, S0192: 1, S0242: 1, S0196: 1, H0543: 1 and S0462: 1.	Leu-24 to Gln-35, Arg-59 to Pro-64, Glu-71 to His-78, Asp-89 to Gly-94, Pro-141 to Val-151, Thr-167 to Val-172, Ala-175 to Thr-180.	AR089: 2, AR096: 1, AR061: 1, AR060: 1, AR104: 0, AR033: 0, AR052: 0, AR055: 0, AR053: 0	193-216, 216-234, 5-21

1307	HWMIFE21	905289	1317	150 - 2288	2722			438-469, 1-17
						Arg-48 to Asn-56, Gly-166 to Ser-175, Tyr-250 to Leu-261, Glu-329 to Gly-355, Ala-378 to Tyr-383, Gly-390 to Tyr-413, Pro-422 to Cys-433, Gln-491 to Tyr-496, Phe-511 to Ser-520, Pro-542 to Arg-551, Arg-568 to Val-582, Gly-595 to Glu-601, Gln-608 to Pro-614, Pro-669 to Pro-678.	AR033: 11, AR053: 11, AR089: 9, AR052: 8, AR055: 8, AR096: 7, AR039: 7, AR060: 5, AR061: 4, AR104: 3 H0556: 8, H0521: 8, H0550: 6, L0601: 6, S0358: 5, S0126: 5, S0040: 4, H0662: 4, H0622: 4, S0144: 4, S0027: 4, S0436: 4, H0620: 3, H0266: 3, H0124: 3, H0135: 3, H0551: 3, L0743: 3, L0754: 3, H0667: 3, H0265: 2, H0294: 2, S0134: 2, H0663: 2, S0442: 2, S0376: 2, H0619: 2, H0393: 2, H0370: 2, T0040: 2, H0250: 2, H0599: 2, H0575: 2, H0318: 2, H0597: 2, H0544: 2, H0545: 2, H0050: 2, H0179: 2, H0271: 2, H0428: 2, H0030: 2, H0641: 2, S0210: 2, L0646: 2, L0659: 2, L0666: 2, H0435: 2, H0670: 2, S0328: 2, H0539: 2, S0152: 2, H0555: 2, S3014: 2, S0028: 2, S0031: 2, H0445: 2, H0665: 2, S0192: 2, H0543: 2, H0717: 1, T0049: 1,	

S0218: 1, H0583: 1, H0650: 1, H0341: 1, S0212: 1, S0418: 1, S0408: 1, H0637: 1, S0046: 1, H0549: 1, H0441: 1, H0431: 1, H0392: 1, H0592: 1, H0122: 1, H0706: 1, H0705: 1, H0581: 1, H0309: 1, H0086: 1, H0572: 1, H0012: 1, T0010: 1, H0292: 1, H0286: 1, S0340: 1, S0250: 1, H0039: 1, L0142: 1, H0181: 1, H0383: 1, S0036: 1, H0269: 1, H0412: 1, H0413: 1, H0100: 1, H0646: 1, S0142: 1, S0344: 1, L0598: 1, L0770: 1, L0764: 1, L0525: 1, L0657: 1, L0517: 1, L0540: 1, L0782: 1, L0789: 1, S0052: 1, S0428: 1, S0053: 1, H0689: 1, H0658: 1, H0660: 1, H0666: 1, H0518: 1, H0694: 1, S0146: 1, S0037: 1, S0032: 1, L0744: 1, L0439: 1, L0740: 1, L0751: 1, L0749: 1, L0750: 1, L0756: 1, L0731: 1, L0758: 1, S0434: 1, S0194: 1, S0276: 1, S0458: 1 and H0721: 1.

1308	HHBEA82	905311	1318	259 - 3081	2723	Gln-33 to Trp-49, Gly-161 to Gly-172, Ile-207 to Arg-212, Asn-414 to Val-419, Val-423 to Gln-428, Val-436 to Gly-441, Lys-467 to Leu-478, Phe-497 to Ser-508, Met-550 to Gly-560, Glu-688 to Thr-697, Ile-711 to Gly-720, Ala-747 to Gly-759, Leu-785 to Phe-791, Ser-795 to Gln-800, Thr-808 to Lys-813, Ser-821 to Phe-832, Thr-879 to Glu-889, Leu-898 to Gln-904, Gln-934 to Met-941.	AR033: 106, AR061: 86, AR096: 76, AR060: 76, AR039: 74, AR055: 70, AR089: 51, AR104: 43, AR052: 40, AR053: 34 H0521: 3, H0373: 1, H0268: 1, L0803: 1 and H0522: 1.	7-28, 132-148, 759-775, 235-251
1309	HWHPC10	905322	1319	172 - 1302	2724		AR096: 1, AR089: 1, AR104: 1, AR039: 0, AR033: 0 AR055: 1, AR060: 1, AR061: 0, AR052: 0 L0748: 5, H0556: 4, H0046: 3, L0766: 3, L0666: 3, L0754: 3, L0757: 3, H0083: 2, H0622: 2, H0623: 2, S0344: 2, L0783: 2, L0789: 2, L0665: 2, L0439:	69-111, 264-287, 5-22, 198-214, 99-115

1310	HDPXZ89	905371	1320	243 - 3488	2725	Cys-38 to Gly-46, Cys-56 to Cys-63, Lys-70 to Thr-80,	984-1012, 951-967, 248-264,
						2, S0434: 2, L0599: 2, L0362: 2, H0583: 1, H0484: 1, S0420: 1, S0442: 1, S0444: 1, S0046: 1, S0132: 1, S0222: 1, H0370: 1, H0282: 1, H0587: 1, S0182: 1, H0318: 1, H0085: 1, H0596: 1, H0123: 1, L0471: 1, H0014: 1, H0373: 1, H0060: 1, H0188: 1, S0022: 1, H0031: 1, H0553: 1, H0617: 1, H0169: 1, H0135: 1, H0551: 1, H0059: 1, T0042: 1, H0494: 1, H0647: 1, H0529: 1, L0371: 1, L0770: 1, L0638: 1, L0639: 1, L5566: 1, L0761: 1, L0643: 1, L0662: 1, L0378: 1, L0661: 1, L0663: 1, H0144: 1, L0438: 1, H0522: 1, S0390: 1, S3014: 1, L0747: 1, L0786: 1, L0777: 1, L0780: 1, L0755: 1, L0731: 1, L0758: 1, L0759: 1, S0011: 1, H0665: 1, S0196: 1, H0542: 1 and H0543: 1. AR039: 1, AR089: 1, AR096: 1, AR060: 1, AR061: 1, AR055: 0,	

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Lys-118 to Gly-124, Pro-230 to Asn-239, Cys-340 to Gly-346, Arg-384 to Arg-394, Pro-406 to Ala-419, Leu-447 to Cys-462, Pro-473 to Cys-480, Gly-539 to Gly-546, Asp-554 to Cys-562, Gln-608 to Cys-620, Pro-633 to Trp-640, Cys-642 to Asn-661, Leu-667 to Cys-674, Glu-688 to Val-693, Lys-801 to Tyr-810, Gly-933 to Ser-938, Glu-1028 to Asn-1043, Asp-1071 to Gln-1076.	AR033: 0, AR053: 0, AR052: 0, AR104: 0 L0794: 7, H0521: 5, S0404: 5, L0789: 4, H0255: 3, H0638: 3, H0309: 3, L0499: 3, H0658: 3, H0555: 3, H0445: 3, S0116: 2, H0486: 2, H0575: 2, H0150: 2, H0424: 2, S0438: 2, H0529: 2, L0659: 2, L0666: 2, L0743: 2, L0751: 2, S0436: 2, L0581: 2, H0717: 1, L0808: 1, H0254: 1, S0442: 1, S0376: 1, S0360: 1, H0208: 1, S0045: 1, S0046: 1, H0441: 1, H0587: 1, H0333: 1, H0427: 1, H0599: 1, T0048: 1, H0581: 1, H0046: 1, H0620: 1, H0014: 1, H0266: 1, H0039: 1, H0213: 1, H0031: 1, H0553: 1, H0644: 1, H0606: 1, S0364: 1, H0488: 1, H0413: 1, H0059: 1, T0004: 1, H0538: 1, L0770: 1, L0800: 1, L0662: 1, L0775: 1, L0809: 1, H0144: 1, H0690: 1, H0539: 1, H0518: 1, S0406: 1, L0439: 1, L0747: 1, L0749: 1, L0731:

1311	HLICA89	905505	1321	121 - 456	2726	Asn-21 to Pro-26, Pro-35 to Arg-44.	1, S0308: 1, S0434: 1, L0605: 1 and H0506: 1. AR033: 4, AR061: 3, AR089: 3, AR060: 2, AR052: 1, AR104: 1, AR055: 0, AR053: 0, AR039: 0, AR096: 0	85-102
1312	HTTDZ50	905792	1322	5 - 2083	2727	Gly-25 to His-31, Thr-54 to Thr-59, Pro-77 to Leu-82, Ser-94 to Asn-99, Ser-187 to Lys-205, Leu-222 to Arg-228, Pro-234 to Ile-249, Tyr-293 to Arg-302, Ser-319 to Asp-337, Thr-408 to Gln-418, Ser-560 to Asn-565, Ser-567 to Gln-588, Glu-643 to Asn-656.	AR096: 105, AR053: 42, AR052: 32, AR089: 16, AR055: 16, AR039: 14, AR061: 11, AR060: 8, AR033: 6, AR104: 4 L0748: 7, H0486: 5, L0740: 5, H0457: 4, H0521: 4, L0439: 4, L0777: 4, H0581: 3, H0040: 3, L0747: 3, L0779: 3, S0040: 2, S0376: 2, H0587: 2, H0013: 2, H0390: 2, H0622: 2, H0591: 2, S0422: 2, L0774: 2, L0659: 2, L0664: 2, L0749: 2, L0758: 2, S0434: 2, L0591: 2, H0423: 2, H0624: 1, H0685: 1, S0342: 1, H0650: 1, H0657: 1, H0300: 1, S0420: 1, S0408: 1, S0045: 1, H0462: 1, S0222: 1, H0574: 1, H0632:	537-556, 656-672, 459-475, 368-384, 623-639, 58-74, 4-20, 260-276

| 1313 | HTLHL43 | 905798 | 1323 | 299 – 649 | 2728 | His-106 to Asp-116. | AR096: 3, AR033: 3, AR089: 2, AR061: 1, AR060: 1, AR104: 1, AR055: 1, AR039: 0 L0439: 6, L0662: 5, L0438: 5, H0556: 3, L0766: 3, H0521: 3, L0748: 3, L0751: 3, L0599: 3, H0370: 1, H0559: 1, H0036: 1, H0318: 1, H0263: 1, H0544: 1, H0046: 1, H0563: 1, L0471: 1, H0012: 1, H0373: 1, S0051: 1, H0083: 1, S6028: 1, H0266: 1, H0179: 1, H0271: 1, S0250: 1, H0039: 1, L0060: 1, T0067: 1, H0561: 1, S0440: 1, H0529: 1, L0763: 1, L0535: 1, L0646: 1, L0662: 1, L0363: 1, L0768: 1, L0766: 1, L0803: 1, L0653: 1, L0792: 1, L0665: 1, H0690: 1, H0658: 1, H0710: 1, S0152: 1, H0522: 1, H0696: 1, S0044: 1, H0134: 1, H0436: 1, L0743: 1, L0754: 1, L0755: 1, S0026: 1, H0667: 1, S0242: 1, S0194: 1, H0542: 1, H0422: 1 and H0712: 1. | 32-64, 10-34, 74-96 |

1314	HLTAG56	905871	1324	136 - 1566	2729	Ser-248 to Ser-255, Thr-261 to Lys-267, Tyr-335 to Cys-342,	2, H0618: 2, H0494: 2, L0805: 2, L0659: 2, L0809: 2, L0792: 2, H0539: 2, L0777: 2, L0731: 2, L0757: 2, S0436: 2, H0506: 2, H0158: 1, H0341: 1, S0212: 1, H0484: 1, H0663: 1, H0662: 1, S0420: 1, S0376: 1, H0580: 1, H0549: 1, H0427: 1, L0021: 1, H0581: 1, H0544: 1, H0545: 1, H0009: 1, H0083: 1, H0622: 1, S0036: 1, H0634: 1, H0616: 1, L0351: 1, S0150: 1, H0646: 1, S0142: 1, S0344: 1, S0422: 1, L0769: 1, L5566: 1, L0641: 1, L0643: 1, L0645: 1, L0649: 1, L0386: 1, L0653: 1, L0657: 1, L0783: 1, L0789: 1, L0793: 1, L0666: 1, L0663: 1, L0664: 1, L0665: 1, S0374: 1, L0565: 1, H0689: 1, H0684: 1, H0523: 1, L0754: 1, L0747: 1, L0779: 1, L0601: 1 and S0446: 1.	AR033: 10, AR052: 9, AR053: 9, AR104: 8, AR096: 7, AR060: 6,	392-424, 103-136, 46-68,

	Clone ID				SEQ ID	Amino acids	Chromosome		Positions
						His-466 to Ser-477.			AR089: 6, AR055: 4, AR061: 3, AR039: 3, H0521: 3, S0418: 2, H0266: 2, L0438: 2, H0661: 1, S0358: 1, H0619: 1, H0586: 1, H0620: 1, H0124: 1, H0135: 1, H0090: 1, H0059: 1, H0646: 1, H0538: 1, S0002: 1, L0565: 1, H0435: 1, H0539: 1 and H0631: 1.	198-219, 370-394, 434-456, 145-164, 311-331, 78-98, 13-29, 277-293
1315	HWLHJ13	905994	1325	117 - 1097	2730	Pro-64 to Glu-70, Pro-84 to Lys-90, His-112 to Gly-117, Asn-124 to Tyr-130, Pro-148 to Gln-155, Ser-167 to Pro-173, Gln-267 to Gly-279.	11q24	AR096: 21, AR089: 8, AR039: 7, AR033: 5, AR053: 5, AR055: 4, AR060: 3, AR052: 3, AR061: 3, AR104: 2, L0599: 5, S0434: 4, S0358: 3, S0444: 3, H0622: 3, S0354: 2, S0408: 2, H0597: 2, L0809: 2, S0330: 2, S0442: 1, H0085: 1, H0183: 1, L0738: 1, S0440: 1, L0764: 1, L0662: 1, L0659: 1, L0519: 1, L0789: 1, L0790: 1, L0665: 1, S0374: 1, H0689: 1 and L0750: 1.	600359, 602574, 602574	238-266, 5-28, 133-149
1316	HDQPN32	906000	1326	71 - 1081	2731	Met-1 to His-8, Thr-60 to Asn-70, Gly-116 to Ala-126.		AR096: 9, AR052: 6, AR053: 6, AR039: 5, AR089: 4, AR033: 3,		268-305, 292-317, 99-115

| 1317 | HOHBT28 | 906114 | 1327 | 168-533 | 2732 | Met-1 to Gln-12, Arg-41 to Glu-52. | AR055: 1, AR033: 1, AR096: 1, AR089: 1, AR060: 0, AR039: 0, AR061: 0, AR052: 0, AR104: 0 L0766: 4, L0438: 4, S0152: 4, H0575: 3, H0050: 3, L0757: 3, L0758: 3, | AR104: 3, AR055: 2, AR060: 2, AR061: 2 S0358: 4, H0644: 3, S0422: 3, H0423: 3, H0624: 2, H0171: 2, S0134: 2, S0007: 2, H0574: 2, H0250: 2, S0003: 2, H0518: 2, L0599: 2, H0422: 2, H0739: 1, H0740: 1, S0114: 1, H0341: 1, S0030: 1, H0580: 1, H0393: 1, H0587: 1, H0427: 1, H0042: 1, H0274: 1, H0581: 1, H0050: 1, H0083: 1, H0591: 1, H0623: 1, H0561: 1, H0641: 1, S0002: 1, H0529: 1, L0794: 1, L0803: 1, L0655: 1, L0606: 1, L0787: 1, L0664: 1, H0539: 1, H0710: 1, H0521: 1, H0522: 1, H0436: 1, L0779: 1, S0436: 1 and H0542: 1. | 17-41, 58-84 |

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1318	HAQCD43	906145	1328	189 - 722	2733			143-165, 2-18
						Thr-19 to Ala-33, Leu-54 to Asp-82, Pro-89 to Ala-97, Pro-100 to Lys-125, Ser-127 to Phe-135, Gly-164 to Leu-169, Cys-173 to Arg-178.	AR039: 75, AR052: 36, AR096: 35, AR089: 35, AR033: 34, AR053: 33, AR055: 30, AR104: 28, AR060: 23, AR061: 20 L0777: 14, L0747: 9, S0360: 7, H0617: 7, L0758: 7, S0356: 6, H0486: 6, L0794: 6, L0779: 6, H0038: 5, L0789: 5, H0436: 5, L0748: 5, L0751: 5, L0749: 5, H0294: 4, S0114: 4, H0341: 4, H0255: 4, H0661: 4, H0581: 4, S0022: 4.	H0556: 2, H0013: 2, T0110: 2, H0572: 2, L0770: 2, L0803: 2, S0126: 2, L0439: 2, S0408: 1, S0132: 1, H0619: 1, H0549: 1, S6016: 1, H0266: 1, S0250: 1, H0615: 1, H0428: 1, H0039: 1, S0036: 1, H0591: 1, H0040: 1, H0616: 1, H0056: 1, T0041: 1, L0769: 1, L0637: 1, L0794: 1, L0804: 1, L0666: 1, H0648: 1, H0539: 1, H0696: 1, S0406: 1, L0748: 1, L0740: 1, L0745: 1, L0756: 1, L0752: 1, L0592: 1 and L0096: 1.	

H0087: 4, S0344: 4, L0662: 4, L0806: 4, L0659: 4, L0663: 4, L0744: 4, H0295: 3, T0049: 3, S0476: 3, L0163: 3, H0266: 3, H0271: 3, S0250: 3, H0424: 3, H0628: 3, S0440: 3, H0529: 3, L0771: 3, L0364: 3, L0378: 3, L0666: 3, L0664: 3, S0126: 3, H0539: 3, H0696: 3, S0028: 3, L0754: 3, L0731: 3, L0757: 3, S0436: 3, L0599: 3, L0595: 3, S0192: 3, S0194: 3, H0657: 2, S0418: 2, S0376: 2, S0046: 2, H0411: 2, H0586: 2, H0333: 2, H0575: 2, H0616: 2, H0494: 2, S0144: 2, S0142: 2, L0598: 2, L0763: 2, L0770: 2, L0766: 2, L0805: 2, L0776: 2, L0518: 2, L0382: 2, H0689: 2, H0658: 2, H0648: 2, H0521: 2, S0406: 2, S3014: 2, S0027: 2, S0206: 2, L0759: 2, L0588: 2, H0667: 2, S0242: 2, H0423: 2, S0424: 2, H0170: 1, H0556: 1, T0002: 1, H0685: 1, S0040: 1, H0656: 1,

H0381: 1, S0001: 1, H0663: 1, H0402: 1, H0305: 1, S0348: 1, H0580: 1, H0722: 1, H0728: 1, S0132: 1, S0278: 1, H0549: 1, H0592: 1, H0587: 1, H0497: 1, H0492: 1, L0622: 1, T0040: 1, H0069: 1, H0635: 1, H0156: 1, L0021: 1, H0618: 1, T0048: 1, H0318: 1, H0251: 1, H0309: 1, H0263: 1, H0597: 1, H0545: 1, H0150: 1, H0041: 1, H0050: 1, L0471: 1, H0620: 1, H0024: 1, S0388: 1, S0051: 1, H0594: 1, H0188: 1, S0334: 1, H0292: 1, H0284: 1, H0688: 1, L0483: 1, T0006: 1, H0644: 1, H0182: 1, H0090: 1, H0591: 1, H0040: 1, H0063: 1, T0067: 1, H0264: 1, H0268: 1, H0412: 1, H0056: 1, H0100: 1, H0280: 1, H0561: 1, H0509: 1, S0210: 1, S0426: 1, L0369: 1, L0520: 1, L0762: 1, L0769: 1, L0639: 1, L3904: 1, L0761: 1, L0772: 1, L0646: 1, L0800: 1, L0643: 1, L0768: 1,

1319	HTPCP50	906161	1329	67 - 2139	2734					
					Ser-17 to Lys-24, Asp-58 to Asn-64, Gln-67 to Ser-81, Phe-90 to Thr-101, Gln-238 to Ser-250, Asp-261 to His-267, Pro-319 to Glu-329, Met-340 to Thr-346, Arg-360 to Arg-367, Asn-374 to Gly-388, Tyr-393 to His-405, Ile-455 to Lys-464,	L5569: 1, L0386: 1, L0381: 1, L0803: 1, L0804: 1, L0774: 1, L0775: 1, L0375: 1, L0655: 1, L0527: 1, L0657: 1, L0656: 1, L0783: 1, L0809: 1, L0530: 1, L0543: 1, L0791: 1, H0699: 1, S0148: 1, H0547: 1, H0519: 1, H0711: 1, H0690: 1, H0682: 1, H0660: 1, S0380: 1, S0454: 1, S0044: 1, H0576: 1, S3012: 1, S0037: 1, L0743: 1, L0755: 1, S0031: 1, H0445: 1, H0595: 1, L0593: 1, S0011: 1, H0665: 1, S0276: 1, H0542: 1, H0543: 1, H0422: 1 and H0506: 1.			425-455, 567-597, 618-639, 463-482, 486-509, 647-667, 504-524, 534-550, 3-19, 294-310
					AR055: 4, AR096: 4, AR053: 3, AR089: 2, AR033: 2, AR052: 2, AR061: 2, AR060: 2, AR104: 2, AR039: 1, L0747: 5, H0623: 4, S0212: 3, S0045: 3, H0586: 3, H0427: 3, S0028: 3, L0439: 3, L0749: 3, L0599: 3, L0415: 2, S0046: 2, H0553: 2, H0412: 2, L0662: 2, L0659: 2, S0146: 2,				

1320	HWLCJ12	906285	1330	704 - 1051	2735	Tyr-553 to Thr-558, Lys-670 to Leu-678.	H0713: 1, H0716: 1, T0049: 1, H0662: 1, S0356: 1, H0722: 1, H0486: 1, S0280: 1, H0575: 1, H0024: 1, H0375: 1, H0266: 1, H0428: 1, H0039: 1, T0006: 1, H0032: 1, H0090: 1, H0268: 1, H0413: 1, H0509: 1, L0375: 1, L0789: 1, L0666: 1, S0126: 1, H0670: 1, H0539: 1, H0521: 1, S0032: 1, L0754: 1, L0779: 1, L0759: 1, H0444: 1 and S0434: 1.	AR089: 5, AR039: 2, AR060: 1, AR052: 1, AR061: 1, AR055: 1, AR033: 1, AR096: 0, AR053: 0, AR104: 0 S0356: 4, H0596: 2, H0032: 2, H0685: 1, S0442: 1, S0354: 1, H0270: 1, H0156: 1, H0046: 1, H0622: 1, L0483: 1, H0674: 1, S0440: 1, L0372: 1, L0364: 1, L0805: 1, L0663: 1, S0374: 1, S0434: 1 and L0599: 1.	79-105, 41-57
1321	HTHCK88	906306	1331	646 -	2736	Asp-50 to Ser-58,	AR053: 41, AR096: 28,		168-203,

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| 1325 | HCRQM01 | 906770 | 1335 | 107 - 952 | 2740 | Trp-72 to Glu-87, Pro-93 to Gly-105, Ser-117 to Ser-128, Trp-150 to Asp-163, Ser-218 to Pro-226. | AR096: 27, AR039: 25, AR033: 21, AR053: 18, AR089: 17, AR055: 14, AR104: 14, AR052: 13, AR060: 11, AR061: 9 L0758: 11, H0547: 10, H0013: 9, L0751: 8, H0486: 7, S0136: 7, L0754: 7, S0356: 6, L0771: 6, L0747: 6, S0134: 5, H0617: 5, S0440: 5, S0422: 5, L0770: 5, L0766: 5, H0696: 5, H0556: 4, H0341: 4, H0251: 4, H0083: 4, H0038: 4, H0040: 4, T0041: 4, H0529: 4, L0769: 4, H0144: 4, H0672: 4, S0330: 4, S0152: 4, L0748: 4, L0439: 4, L0779: 4, L0759: 4, H0543: 4, H0171: 3, H0657: 3, S0418: 3, S0360: 3, S0046: 3, H0574: 3, H0024: 3, H0412: 3, T0042: 3, L0764: 3, L0521: 3, L0794: 3, | 12-37, 226-252, 258-274 |

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1327	HTEKL48	906879	1337	311 - 763	2742	Arg-3 to Pro-9.	1, S3014: 1, L0780: 1, L0731: 1, L0758: 1, S0031: 1, H0445: 1, S0434: 1, L0597: 1, L0608: 1, L0362: 1 and S0384: 1.				79-95

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H0286: 5, H0038: 4, S3014:
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L0750: 3, L0759: 3, H0013: 2, S0214: 2, S0440: 2,
L0774: 2, H0519: 2, S0380: 2, L0749: 2, L0755: 2,
L0731: 2, H0171: 1, H0556: 1, S0040: 1, H0583: 1,
H0656: 1, H0255: 1, S0418: 1, S0408: 1, H0637: 1,
H0733: 1, S0045: 1, T0040: 1, H0427: 1, H0599: 1,
T0082: 1, H0618: 1, T0048: 1, S0474: 1, H0581: 1,
H0052: 1, H0309: 1, L0738: 1, L0471: 1, H0014: 1,
H0594: 1, S6028: 1, S0022: 1, T0086: 1, H0124: 1,
H0090: 1, H0038: 1, H0616: 1, H0551: 1, H0412: 1,
S0150: 1, S0426: 1, L0763: 1, L0769: 1, L0638: 1,
L0772: 1, L0771: 1, L0521: 1, L0775: 1, L0806: 1,
L0805: 1, L0776: 1, L0542: 1, L0666: 1, L0664: 1,

1338	HNHCM07	907060	1348	174 - 821	2753	Lys-9 to Gly-17.	AR104: 13, AR096: 9, AR033: 7, AR060: 7, AR089: 6, AR055: 6, AR052: 4, AR039: 4, AR053: 4, AR061: 3 L0070: 2, H0618: 1, H0252: 1, S0428: 1 and S0053: 1.	H0144: 1, L0438: 1, H0547: 1, H0521: 1, S0404: 1, S0406: 1, H0576: 1, S3014: 1, L0742: 1, L0758: 1, H0595: 1, S0436: 1, H0665: 1 and H0422: 1.	98-114
1339	HELGY02	907105	1349	222 - 2831	2754	Arg-30 to Ile-42, Asn-103 to Ser-117, Asn-146 to Ser-151, Lys-165 to Asn-171, Asn-177 to Tyr-191, Arg-205 to Met-210, Pro-225 to Ser-236, Pro-254 to His-259, Asp-391 to Val-396, Lys-402 to Trp-408, Lys-422 to Asp-444, Pro-494 to Glu-502, Gly-517 to Lys-528.	AR104: 1, AR061: 1, AR052: 0, AR096: 0, AR053: 0 AR089: 1, AR060: 0, AR039: 0, AR033: 0, AR055: 0		1-23, 358-374
1340	HTAFC46	907218	1350	237 - 659	2755	Met-6 to Gln-19, Phe-22 to Asn-28,	AR061: 3, AR053: 1 AR060: 2, AR089: 1,		120-141, 76-92

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						Pro-30 to His-62.	AR033: 1, AR096: 0, AR055: 0, AR104: 0 H0069: 2, H0264: 2, H0253: 1, H0412: 1, H0623: 1, H0521: 1 and H0423: 1.			134-167, 184-206, 207-228, 240-267, 98-122, 63-85, 1-18, 158-174
1341	HRADL67	907233	1351	142-975	2756	Val-47 to His-56, Glu-87 to Arg-94.	AR039: 51, AR053: 42, AR033: 28, AR089: 25, AR096: 25, AR104: 24, AR052: 24, AR055: 20, AR060: 20, AR061: 11 T0040: 1, H0013: 1, H0056: 1, H0435: 1, S0152: 1, H0555: 1 and L0759: 1.			183-213, 135-161, 226-250, 33-51, 107-123, 282-298, 59-75
1342	HDPQA54	907253	1352	93-1094	2757	Lys-53 to Ser-58, Ala-176 to Tyr-183, Lys-215 to Gln-220, Gly-261 to Gln-267.	AR096: 3, AR060: 3, AR089: 2, AR033: 2, AR053: 1, AR061: 1, AR055: 1, AR052: 1, AR104: 0, AR039: 0 H0521: 8, H0522: 4, H0580: 2, H0586: 2, S0036: 2, H0638: 1, H0250: 1, S0003: 1, H0111: 1, S0002: 1, H0529: 1, L0794: 1, L0803: 1, L0774: 1 and L0752: 1.			
1343	HCFCS40	907375	1353	4252-3083	2758	Pro-20 to Leu-30.	AR060: 241, AR033: 229, AR055: 211, AR061: 142, AR089: 103, AR053: 85, AR052: 62, AR104: 48.	116806, 120120, 120120, 120120	3p21.3	153-176, 205-229, 308-327, 34-50

AR096: 31, AR039: 25, S0474: 20, H0683: 7, L0748: 7, H0251: 6, L0777: 5, S0422: 4, L0764: 4, L0766: 4, L0740: 4, L0754: 4, S0418: 3, H0046: 3, H0553: 3, H0521: 3, L0779: 3, L0752: 3, L0731: 3, L0757: 3, H0422: 3, H0713: 2, H0717: 2, H0733: 2, S0476: 2, H0441: 2, H0575: 2, H0428: 2, H0494: 2, L0659: 2, L0666: 2, H0547: 2, H0519: 2, L0439: 2, L0745: 2, L0749: 2, L0756: 2, L0758: 2, L0485: 2, S0026: 2, S0384: 2, H0716: 1, S0212: 1, H0661: 1, S0356: 1, S0444: 1, S0045: 1, S0046: 1, S0132: 1, H0645: 1, H0406: 1, S6022: 1, H0431: 1, H0587: 1, H0486: 1, T0040: 1, H0013: 1, H0069: 1, H0156: 1, H0098: 1, H0581: 1, H0150: 1, H0024: 1, H0083: 1, S0025: 1, H0355: 1, H0328: 1, H0031: 1, H0124: 1, T0067: 1, H0413: 1, H0623: 1, H0560: 1, L0769: 1,	120436, 120436, 120436, 138320, 168468, 182280, 600163

1344	HBINS69	907522	1354	1113 - 1415	2759	Ala-32 to Gly-37.	74-93
						AR104: 8, AR033: 7, AR053: 6, AR055: 5, AR096: 5, AR039: 4, AR052: 3, AR089: 3, AR061: 2, AR060: 2, H0617: 12, L0745: 6, H0052: 5, H0521: 4, L0758: 4, L0740: 3, H0265: 2, H0556: 2, S0358: 2, H0327: 2, H0178: 2, L0766: 2, H0682: 2, L0744: 2, L0748: 2, L0439: 2, L0746: 2, L0750: 2, H0149: 1, H0663: 1, S0356: 1, H0675: 1, H0333: 1, H0581: 1, H0083: 1, H0615: 1, L0143: 1,	L0667: 1, L0372: 1, L0767: 1, L0803: 1, L0804: 1, L0774: 1, L0775: 1, L0375: 1, L0784: 1, L0655: 1, L0657: 1, L0783: 1, L0647: 1, L5622: 1, L5623: 1, L0664: 1, H0697: 1, S0374: 1, H0724: 1, H0520: 1, H0435: 1, H0710: 1, H0518: 1, S0152: 1, L0751: 1, L0759: 1, S0031: 1, H0445: 1, S0434: 1, S0436: 1, S0192: 1, S0424: 1 and L0500: 1.

No.	Clone ID	cDNA	SEQ ID NO	NT region	SEQ ID NO	Amino acids	Tissue / Library codes and Hits	Cytoband	OMIM	Region
1345	HKGAO47	907635	1355	214 - 1563	2760	Met-1 to Tyr-8, Glu-15 to Gly-24, Ser-64 to Glu-69, Cys-73 to Gly-79, Glu-104 to Asp-111, Asn-132 to Gln-139.	H0181: 1, S0036: 1, H0135: 1, H0087: 1, H0059: 1, H0494: 1, L0769: 1, L0372: 1, L0764: 1, L0648: 1, L0774: 1, L0783: 1, H0593: 1, H0660: 1, H0672: 1, S0028: 1, L0741: 1, L0751: 1, L0747: 1 and L0779: 1. AR039: 10, AR096: 8, AR089: 7, AR052: 5, AR060: 5, AR104: 5, AR033: 5, AR053: 4, AR061: 2, AR055: 2			141-164, 358-377, 404-420, 422-438
1346	HMTBI19	907637	1356	1418 - 114	2761	Asp-2 to Asp-14, Ala-43 to Leu-52, Arg-111 to Thr-120, His-122 to Asn-130, Phe-168 to Ala-176, Thr-244 to Phe-249, Ser-261 to Asn-273, Glu-290 to Glu-296, Cys-303 to Lys-311, Tyr-334 to Val-339, Glu-358 to Ser-366, Ala-428 to Leu-435.	AR096: 2, AR052: 2, AR053: 2, AR089: 2, AR060: 1, AR033: 1, AR061: 1, AR104: 1, AR039: 0, L0439: 4, L0608: 3, L0667: 2, L0662: 2, L0766: 2, L0776: 2, H0518: 2, L0749: 2, L0777: 2, L0758: 2, L0362: 2, H0583: 1, S0418: 1, S0442: 1, S0358: 1, S0360: 1, H0575: 1, L0055: 1, H0032: 1, H0090: 1, H0634: 1, T0042: 1, S0426: 1, L0763: 1, L0770:	15q22.3	151670, 600374, 601780	216-232

| 1347 | HPMGN27 | 907728 | 1357 | 213 - 569 | 2762 | Val-11 to Val-16, Leu-41 to Asp-57. | 1, L0372: 1, L0646: 1, L0374: 1, L0803: 1, L0806: 1, L0805: 1, L0809: 1, L0789: 1, L0666: 1, L0664: 1, L0748: 1, L0754: 1, L0731: 1, L0596: 1, H0668: 1, S0026: 1 and H0352: 1. AR055: 4, AR060: 3, AR061: 3, AR033: 3, AR089: 3, AR096: 2, AR053: 2, AR052: 2, AR104: 1, AR039: 0 L0748: 4, L0794: 2, L0659: 2, L0517: 2, H0519: 2, L0758: 2, L0021: 1, H0318: 1, H0266: 1, H0031: 1, L0564: 1, L0772: 1, L0662: 1, L0768: 1, L0803: 1, H0144: 1, S0374: 1, H0435: 1, H0666: 1, H0710: 1, L0749: 1, L0779: 1 and S0436: 1. | 99-116, 23-39 |
| 1348 | HWLEP57 | 907757 | 1358 | 205 - 549 | 2763 | Arg-75 to Lys-86. | AR060: 3, AR039: 3, AR033: 2, AR061: 1, AR053: 1, AR089: 1, AR055: 1, AR052: 1, AR104: 1, AR096: 0 L0373: 3, L0754: 3, L0005: 2, S0354: 2, H0331: | 47-71, 6-22 |

1349	HADGF57	9077775	1359	104-1303	2764	AR096: 1, AR053: 1, AR033: 1, AR060: 1, AR089: 0, AR039: 0, AR052: 0, AR061: 0, AR055: 0, AR104: 0 S0410: 13, L0777: 12, L0748: 9, T0060: 6, H0553: 4, H0672: 3, L0439: 3, L0749: 3, S0436: 3, S0134: 2, H0661: 2, S0376: 2, S0278: 2, H0575: 2, S0003: 2, S0022: 2, H0674: 2, S0440: 2, L0646: 2, L0662: 2, L0809: 2, L0740: 2, L0754: 2, L0755: 2, L0758: 2, S0434: 2, H0506: 2, H0716: 1, T0049: 1, H0657: 1, H0656: 1, S0358: 1, S0468: 1, H0437: 1, S6022:	2, L0157: 2, L0646: 2, L0803: 2, L0659: 2, L0748: 2, S0436: 2, L0581: 2, H0170: 1, S0376: 1, H0574: 1, H0632: 1, H0590: 1, H0596: 1, H0046: 1, H0510: 1, S0214: 1, H0622: 1, H0644: 1, H0598: 1, S0440: 1, H0509: 1, L0598: 1, L0649: 1, S0406: 1, S0434: 1 and L0601: 1.	193-224, 6-31, 170- 186, 145- 161

1350	HDTIC42	907776	1360	26 - 1282	2765		189-220, 384-404, 298-314, 6-22

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AR033: 18, AR061: 12, AR096: 12, AR104: 11, AR089: 11, AR060: 7, AR053: 5, AR052: 4, AR055: 3, AR039: 2, L0777: 20, L0744: 15, L0748: 14, H0591: 6, L0803: 6, L0752: 6, S0358: 5, L0774: 5, L0758: 5,

Ala-27 to Glu-33, Asp-57 to Glu-69, Asn-134 to Thr-143, Met-185 to Arg-192, Ile-221 to Leu-234, Thr-249 to Asp-260, Ser-270 to Asp-275, Pro-366 to Gly-376.

H0486: 4, S0002: 4, L0770: 4, L0794: 4, H0521: 4, H0170: 3, S0278: 3, H0441: 3, S0010: 3, H0644: 3, L0769: 3, L0804: 3, L0659: 3, L0666: 3, L0747: 3, L0756: 3, H0638: 2, S0360: 2, H0619: 2, S0388: 2, S0051: 2, H0124: 2, S0142: 2, L0598: 2, L0800: 2, L0764: 2, L0375: 2, L0806: 2, L0776: 2, L0657: 2, S0052: 2, H0689: 2, H0659: 2, S0328: 2, H0522: 2, H0552: 2, L0754: 2, L0749: 2, L0779: 2, H0445: 2, L0588: 2, L0599: 2, L0608: 2, L0595: 2, H0624: 1, T0049: 1, H0341: 1, H0484: 1, H0663: 1, H0662: 1, S0418: 1, S0420: 1, S0444: 1, H0676: 1, S0408: 1, H0580: 1, H0639: 1, S0300: 1, H0438: 1, H0586: 1, H0574: 1, H0427: 1, H0042: 1, S0346: 1, L0105: 1, H0318: 1, S0474: 1, H0546: 1, H0012: 1, T0003: 1, H0051: 1, H0355: 1, H0510: 1, H0416: 1, H0328: 1,

1351	HHEXO20	907816	1361	939 - 1535	2766		180-199
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| 1352 | HWLGN53 | 907823 | 1362 | 74 - 844 | 2767 | Pro-35 to Asn-42, Asp-48 to Gln-54, Glu-62 to Pro-78, Pro-88 to Gln-94, Pro-97 to Pro-104, Pro-122 to His-127, Thr-130 to Ala-138. | 1, H0016: 1, H0373: 1, H0179: 1, H0622: 1, H0380: 1, L0803: 1, L4501: 1, H0539: 1, S0436: 1, L0593: 1, H0543: 1 and H0422: 1. AR089: 7, AR052: 6, AR096: 6, AR060: 5, AR033: 5, AR053: 4, AR061: 3, AR055: 3, AR104: 3, AR039: 2 L0438: 6, H0486: 5, S0212: 4, S0250: 4, L0564: 4, L0766: 4, L0663: 4, H0144: 4, S0374: 4, L0749: 4, L0591: 4, H0251: 3, S0214: 3, H0551: 3, L0771: 3, L0659: 3, L0565: 3, H0521: 3, S0404: 3, S3014: 3, S0027: 3, L0759: 3, H0445: 3, L0595: 3, H0543: 3, H0657: 2, S0376: 2, S0360: 2, H0586: 2, H0587: 2, S0280: 2, H0156: 2, S0474: 2, H0428: 2, H0090: 2, L0662: 2, L0378: 2, L0519: 2, L0793: 2, S0328: 2, L0748: 2, L0439: 2, L0740: 2, L0747: 2, S0436: 2, L0597: 2, L0362: 2, L0361: 2, S0192: 2, H0542: 2 | 156-173, 197-213, 17-33, 173-189 |

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1, S0418: 1, S0356: 1,
S0354: 1, S0410: 1, S0045:
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H0393: 1, H0392: 1, H0485:
1, T0060: 1, H0013: 1,
H0250: 1, H0427: 1, L0021:
1, H0575: 1, S0010: 1,
S0346: 1, H0052: 1, H0309:
1, H0544: 1, L0471: 1,
H0014: 1, S0051: 1, H0083:
1, H0266: 1, H0039: 1,
L0142: 1, S0366: 1, H0264:
1, H0412: 1, H0494: 1,
S0464: 1, S0438: 1, H0641:
1, S0210: 1, S0002: 1,
S0426: 1, L0598: 1, L0763:
1, L0769: 1, L0637: 1,
L0667: 1, L0804: 1, L0774:
1, L0651: 1, L0523: 1,
L0653: 1, L0656: 1, L0636:
1, L0526: 1, L0384: 1,
L0647: 1, L0791: 1, L0792:
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1, H0683: 1, H0672: 1,
L0602: 1, H0522: 1, H0696:

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| 1354 | HWAAX38 | 907899 | 1364 | 12 - 476 | 2769 | Ala-18 to Gln-24. | AR039: 13, AR053: 8, AR096: 6, AR104: 6, AR033: 5, AR089: 5, AR052: 4, AR060: 4, AR055: 4, AR061: 2 H0423: 10, H0445: 7, H0556: 6, L0766: 6, S0134: 5, H0656: 5, H0486: 5, H0436: 5, H0657: 4, H0271: | | 130-149, 37-53 |

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S0330: 3, H0710: 3, H0518:
3, L0777: 3, H0265: 2,
S0114: 2, S0360: 2, H0580:
2, H0069: 2, H0004: 2,
S0450: 2, S0142: 2, L0761:
2, L0775: 2, L0776: 2,
L0661: 2, L0666: 2, L0665:
2, H0576: 2, L0748: 2,
L0750: 2, L0759: 2, T0002:
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H0140: 1, H0341: 1, H0255:
1, H0589: 1, H0638: 1,
S0418: 1, S0420: 1, H0637:
1, H0608: 1, H0250: 1,
H0635: 1, H0427: 1, H0318:
1, S0474: 1, H0050: 1,
L0471: 1, S0214: 1, H0328:
1, H0428: 1, H0039: 1,
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1, H0272: 1, H0056: 1,
T0041: 1, S0144: 1, S0344:
1, H0529: 1, L0762: 1,
L0770: 1, L0769: 1, L0667:
1, L0646: 1, L0648: 1,
L0662: 1, L0774: 1, L0806:

1355	HTJNG15	908309	1365	623 - 1495	2770		1, L0805: 1, L0655: 1, L0607: 1, L0636: 1, L0518: 1, L0809: 1, L0787: 1, L0790: 1, L0791: 1, L0664: 1, S0052: 1, S0053: 1, H0698: 1, H0701: 1, H0539: 1, S0378: 1, H0521: 1, H0696: 1, H0214: 1, S0406: 1, L0747: 1, L0756: 1, L0779: 1, L0755: 1, L0758: 1, S0031: 1 and H0136: 1.	117-134, 144-160
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1356	HSDJA72	908338	1366	1637 - 2539	2771	Gln-4 to Asn-20.	AR053: 6, AR096: 5, AR052: 5, AR089: 5, AR060: 3, AR104: 3, AR033: 3, AR055: 2, AR039: 2, AR061: 1 S0028: 13, S0126: 5,	170-201, 123-148, 101-123, 34-57, 209-229, 71-87,

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1357	HMCHF75	908383	1367	158 - 1060	2772	Thr-70 to Trp-83, Asn-85 to Gly-91, Glu-182 to Leu-188, Asp-191 to Gly-196.	AR096: 17, AR089: 13, AR053: 12, AR060: 12, AR052: 11, AR055: 9, AR033: 9, AR039: 6, AR104: 5, AR061: 4 H0521: 7, S0344: 4, S0002: 3, S0142: 2, S6014: 1, H0431: 1, S0051: 1, S0015: 1, S0426: 1, H0701: 1, H0539: 1 and H0522: 1.	198-227, 1-21, 238-254
1358	HDTAZ43	908412	1368	217 - 1233	2773		AR096: 5, AR089: 3, AR053: 2, AR104: 2, AR039: 2, AR033: 2, AR061: 2, AR060: 1, AR055: 1, AR052: 1 L0803: 6, L0809: 4,	123-142, 272-288, 204-220, 225-241, 94-110

1359	HAAAN55	908451	1369	148 - 1542	2774	Met-1 to Glu-8, Ile-13 to Arg-19, Ser-29 to Ser-38, Ser-53 to Phe-67, Thr-80 to Met-86, Arg-101 to Arg-113, Ser-120 to Arg-125.	H0616: 3, L0789: 3, L0749: 3, S0007: 2, H0617: 2, L0455: 2, H0412: 2, L0769: 2, L0761: 2, L0764: 2, L0662: 2, L0794: 2, L0805: 2, L0779: 2, L0752: 2, L0758: 2, H0422: 2, H0550: 1, H0431: 1, H0486: 1, H0618: 1, H0253: 1, H0744: 1, H0194: 1, H0135: 1, H0488: 1, S0440: 1, H0647: 1, L0800: 1, L0771: 1, L0766: 1, L0804: 1, L0776: 1, L0655: 1, L0791: 1, L0663: 1, H0683: 1, H0696: 1, L0742: 1, L0747: 1, L0777: 1, L0757: 1, L0592: 1 and L0599: 1. AR033: 4, AR096: 3, AR060: 3, AR053: 3, AR089: 2, AR052: 2, AR055: 1, AR061: 1, AR104: 0, AR039: 0, H0646: 1 and L0770: 1. 407-423, 377-394
1360	HBODI05	908697	1370	66 - 1883	2775	Met-1 to Leu-7, Asp-67 to Lys-72, Arg-205 to Asn-214, Lys-230 to Lys-238,	AR089: 4, AR096: 2, AR052: 2, AR033: 2, AR104: 1, AR060: 1, AR055: 1, AR061: 1, 536-552, 135-151, 105-121, 299-315,

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1361	HAJAH16	908763	1371	879-2036	2776	Leu-9 to Leu-18, Pro-36 to Asp-48, Ala-117 to Gln-133, Leu-137 to Ala-142, Arg-159 to Asp-164, Arg-170 to Ser-177, Gly-205 to Thr-224, Ser-253 to Asp-262, Gly-303 to Gly-313, Val-320 to Ile-335, Pro-353 to Phe-367, Asp-376 to Asp-386.	AR089: 8, AR060: 3, AR033: 3, AR096: 1, AR055: 0, AR052: 0, AR039: 0, AR053: 0 H0561: 1, H0520: 1 and L0748: 1.	334-350, 141-157
1362	HOUDS09	908843	1372	410 -	2777	Asn-21 to Tyr-28,	AR104: 120, AR033: 112,	103-132

1363	HLWAF59	908860	1373	1126	Leu-30 to Glu-53.	AR061: 107, AR060: 94, AR055: 86, AR096: 79, AR039: 74, AR089: 61, AR053: 52, AR052: 46, L0599: 12, L0766: 11, L0754: 8, L0803: 2, L0809: 2, S0152: 2, H0521: 2, L0743: 2, L0731: 2, H0624: 1, H0171: 1, S0040: 1, H0650: 1, H0656: 1, S0298: 1, S0282: 1, H0580: 1, S0046: 1, S0222: 1, H0431: 1, H0587: 1, H0486: 1, S0010: 1, H0318: 1, H0581: 1, H0309: 1, H0416: 1, T0006: 1, H0063: 1, T0041: 1, H0560: 1, S0422: 1, S0002: 1, L0800: 1, L0641: 1, L0363: 1, L5574: 1, L0523: 1, L0659: 1, H0547: 1, H0539: 1, H0710: 1, L0758: 1, S0242: 1, H0543: 1 and H0423: 1.	332-348
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1365	HMSCR89	909056	1375	194 - 1831	2780	Asp-142 to Arg-149, Leu-181 to Glu-190, Gln-203 to Leu-215, Arg-217 to Lys-222, Ile-226 to Val-233, Glu-236 to Gly-244, Lys-254 to Val-262, Leu-287 to Asp-296, Ser-324 to Glu-331, Phe-336 to Asn-341, Lys-348 to Arg-353, Ser-357 to Gln-372, Ser-394 to Ala-409, Leu-434 to Glu-447, 1, S0134: 1, S0442: 1, L0717: 1, T0048: 1, L0163: 1, H0553: 1, H0090: 1, L0769: 1, L0764: 1, L0771: 1, L0363: 1, L0766: 1, H0658: 1, H0521: 1, S0404: 1, S0392: 1, L0779: 1, H0445: 1, S0434: 1, L0485: 1, H0543: 1 and S0412: 1.	AR053: 13, AR096: 12, AR052: 10, AR089: 9, AR060: 8, AR033: 7, AR055: 7, AR104: 7, AR039: 5, AR061: 4 L0766: 13, S0474: 6, H0305: 5, L0439: 3, L0731: 3, H0052: 2, S0002: 2, H0529: 2, L0764: 2, L0653: 2, L0666: 2, S0328: 2, H0521: 2, L0751: 2, L0750: 2, L0599: 2, L0604: 2, H0650: 1, S0116: 1, H0341: 1, H0589: 1, S0418: 1,	15q26	180090, 600318	96-116

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1372	HTLHU05	909665	1382	174 - 1409	2787	Thr-30 to Gly-36, Asp-44 to Asp-51, Pro-145 to Lys-151, Ala-161 to Ser-168.	AR055: 4, AR061: 3, AR096: 3, AR052: 3, AR089: 3, AR060: 2, AR033: 2, AR053: 2, AR039: 1, AR104: 0 H0618: 64, H0253: 52, L0758: 6, L0779: 2, H0392: 2, 1, H0038: 1, L0761: 1, L0803: 1, L0806: 1, L0807: 1 and L0697: 1.	L0764: 1, L0648: 1, L0662: 1, L0794: 1, L0649: 1, L0561: 1, L0775: 1, L0376: 1, L0806: 1, L0653: 1, L0655: 1, L0657: 1, L0517: 1, L0783: 1, L0647: 1, L0666: 1, L0663: 1, H0691: 1, H0519: 1, H0670: 1, H0660: 1, H0648: 1, S0406: 1, H0436: 1, H0576: 1, S0027: 1, S0206: 1, L0756: 1, L0731: 1, S0260: 1, H0444: 1, L0596: 1, L0588: 1, L0605: 1, L0608: 1, L0594: 1, S0026: 1, H0665: 1, H0667: 1, L0096: 1 and S0424: 1.	194-210, 71-87
1373	HDPPG85	909673	1383	665 - 1102	2788	Glu-16 to Arg-23, Phe-43 to Trp-50,	AR033: 2, AR089: 1, AR096: 1, AR053: 1.		114-131, 67-83

| 1374 | HWMIB81 | 909678 | 1384 | 51 - 572 | 2789 | Val-59 to Asp-66. | AR060: 1, AR055: 1, AR061: 1, AR039: 0, AR052: 0, AR104: 0 H0585: 6, H0255: 6, H0457: 3, H0539: 3, H0657: 2, L0622: 2, H0634: 2, H0063: 2, L0789: 2, H0436: 2, S0218: 1, H0650: 1, H0254: 1, H0592: 1, H0486: 1, H0069: 1, H0575: 1, H0327: 1, H0083: 1, H0179: 1, H0271: 1, L0055: 1, H0616: 1, T0041: 1, H0646: 1, H0695: 1, L0369: 1, L0769: 1, L0794: 1, L0766: 1, L0774: 1, L0809: 1, H0522: 1, L0779: 1, L0731: 1, H0136: 1, S0276: 1, H0543: 1, H0423: 1 and H0422: 1. AR096: 2, AR053: 2, AR039: 1, AR060: 1, AR089: 1, AR055: 1, AR061: 1, AR104: 1, AR052: 1, AR033: 1 L0748: 2, H0171: 1, S0134: 1, S0354: 1, S0358: 1, H0014: 1, H0083: 1, H0510: 1, L0764: 1, L0803: 1, L0789: 1, H0593: 1, | 83-100 |

1375	HSYDI55	909692	1385	105 - 1199	2790			323-339
						Thr-26 to Glu-37, Lys-82 to Asn-92, Gly-122 to Ile-128, Glu-152 to Thr-157, Ala-159 to Arg-169, Lys-176 to Lys-181, Lys-183 to Arg-196, Ser-200 to Glu-207, Pro-256 to Ser-267, Ser-305 to Ala-310, Glu-348 to Gly-354.	AR052: 16, AR053: 9, AR033: 5, AR089: 4, AR096: 3, AR060: 3, AR104: 2, AR055: 2, AR039: 1, AR061: 1 H0651: 11, L0794: 8, H0038: 5, L0805: 4, L0758: 4, S0358: 3, S0476: 3, L0766: 3, L0803: 3, L0665: 3, H0144: 3, H0521: 3, L0748: 3, L0740: 3, L0756: 3, H0222: 2, S0420: 2, S0360: 2, H0551: 2, H0412: 2, S0440: 2, L0804: 2, L0789: 2, L0666: 2, L0747: 2, S0436: 2, L0599: 2, H0542: 2, H0223: 1, H0159: 1, H0717: 1, H0716: 1, S0282: 1, H0580: 1, S0046: 1, H0411: 1, H0486: 1, H0013: 1, H0596: 1, L0738: 1, H0544: 1, H0046: 1, L0471: 1, H0014: 1, H0083: 1, S0003: 1, H0553: 1, L0055: 1, H0124: 1, H0591: 1, H0616: 1, H0059: 1, H0494: 1, S0294: 1, H0529: H0659: 1, H0539: 1, H0555: 1, L0751: 1, L0758: 1, L0759: 1 and L0595: 1.	

| 1376 | HHFJU87 | 909720 | 1386 | 110 – 1225 | 2791 | Ser-4 to Ser-28, Leu-37 to Glu-45, Pro-86 to Leu-94, Glu-150 to Leu-157, Leu-168 to Trp-177, Ser-242 to Ala-249, Glu-340 to Asp-348, Phe-365 to Val-371. | AR039: 4, AR053: 2, AR033: 1, AR089: 1, AR061: 0, AR060: 0, AR096: 0, AR055: 0, AR104: 0 | L0740: 10, L0747: 9, L0731: 9, S0126: 7, S0360: 5, H0623: 5, L0809: 5, L0750: 5, L0757: 4, L0471: 3, L0662: 3, L0777: 3, L0752: 3, L0759: 3, S0376: 2, H0619: 2, H0261: 2, L0021: 2, H0544: 2, H0644: 2, H0551: 2, H0413: 2, H0056: 2, H0100: 2, L0762: 2, L0769: 2, L0764: 2, | 1, L0770: 1, L0769: 1, L0800: 1, L0644: 1, L0764: 1, L0771: 1, L0662: 1, L0364: 1, L0653: 1, L0776: 1, L0655: 1, L0659: 1, L0526: 1, L0382: 1, S0148: 1, H0693: 1, S0328: 1, S0152: 1, H0436: 1, H0631: 1, S3014: 1, S0027: 1, L0439: 1, L0749: 1, L0779: 1, L0777: 1, L0731: 1, L0757: 1, H0444: 1, H0445: 1, S0026: 1, S0242: 1, S0194: 1 and H0423: 1. | 292-309, 180-197, 99-115 |

1377	HDHIB39	909774	1387	25 - 1038	2792	Thr-2 to Arg-33, Ser-80 to Lys-85.			223-242
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1378	HTXSR92	909802	1388	272 - 1360	2793	Glu-24 to Pro-34, Leu-45 to Glu-51.	AR053: 1, AR060: 1, AR061: 1, AR033: 1, AR055: 1, AR104: 1 H0571: 1, H0038: 1, S0052: 1 and S0216: 1.		91-115, 189-205, 58-74
							AR039: 2, AR060: 1, AR089: 1, AR061: 0, AR052: 0, AR096: 0, AR033: 0, AR055: 0, AR104: 0, AR053: 0 H0265: 1, H0556: 1 and H0083: 1.		
1379	HWEAD65	909868	1389	282 - 605	2794		AR052: 3, AR055: 3, AR033: 3, AR104: 2, AR096: 2, AR053: 2, AR089: 2, AR061: 1, AR060: 1, AR039: 0 T0049: 2, S0046: 2, S0045: 1, H0261: 1, H0611: 1, H0601: 1, S0250: 1, L0666: 1, H0672: 1, H0522: 1, L0780: 1 and S0276: 1.		64-82
1380	HUUAR12	909906	1390	124 - 717	2795	Glu-37 to Trp-42, Arg-64 to Lys-69.	AR033: 2, AR053: 2, AR096: 2, AR089: 2, AR052: 1, AR104: 1, AR060: 1, AR055: 1, AR061: 1, AR039: 0 L0809: 9, L0775: 3, L0758: 3, S0376: 2, L0439:	2	176-192

| 1381 | HEMBT61 | 909941 | 1391 | 31 - 351 | 2796 | Asp-83 to Asp-90. | AR104: 10, AR055: 10, AR033: 10, AR060: 6, AR089: 5, AR052: 5, AR039: 5, AR061: 5, AR053: 5, AR096: 4 L0547: 2, S0046: 1, L0471: 1, L0772: 1, L0529: 1 and L0780: 1. | 63-81 | 2, L0752: 2, H0656: 1, H0661: 1, H0586: 1, H0590: 1, H0594: 1, L0769: 1, L0761: 1, L0800: 1, L0662: 1, L0766: 1, L0803: 1, L0651: 1, L0805: 1, L0659: 1, L0788: 1, L0666: 1, L0779: 1, S0434: 1 and S0276: 1. |
| 1382 | HNTCE17 | 909957 | 1392 | 14 - 799 | 2797 | | AR104: 2, AR055: 2, AR052: 2, AR039: 1, AR033: 1, AR053: 1, AR089: 1, AR096: 1, AR060: 1, AR061: 1 H0618: 5, L0747: 5, L0766: 4, H0253: 3, L0794: 3, L0439: 3, S0420: 2, H0587: 2, H0333: 2, L0769: 2, L0764: 2, L0526: 2, L0438: 2, H0520: 2, H0658: 2, H0539: 2, L0731: 2, | 74-91, 232-248, 16-32 | |

| 1383 | HFFAV24 | 910038 | 1393 | 40 - 552 | 2798 | Met-1 to Glu-6, Glu-12 to Gly-17, Arg-23 to Gly-48. | L0758: 2, L0604: 2, H0265: 1, H0556: 1, H0583: 1, H0650: 1, S0212: 1, S0356: 1, H0619: 1, H0351: 1, H0441: 1, L0622: 1, L0623: 1, H0635: 1, H0036: 1, H0251: 1, H0309: 1, L0738: 1, H0051: 1, S6028: 1, L0055: 1, S0366: 1, H0038: 1, H0040: 1, H0634: 1, H0623: 1, H0561: 1, H0130: 1, H0633: 1, L0763: 1, L0772: 1, L0641: 1, L0662: 1, L0363: 1, L0649: 1, L0803: 1, L0776: 1, L0659: 1, L0635: 1, L0666: 1, L0663: 1, L0665: 1, H0144: 1, H0663: 1, H0547: 1, H0519: 1, L0611: 1, L0779: 1, S0260: 1 and S0436: 1. / AR055: 13, AR061: 8, AR033: 7, AR060: 7, AR053: 6, AR052: 6, AR089: 5, AR096: 4, AR039: 2, AR104: 2 L0748: 12, L0740: 11, L0439: 9, H0052: 8, L0666: 6, H0616: 5, L0776: 5, L0742: 5, L0744: 5, L0750: 5, L0601: 5, S0444: 4, | 22q13.31 | 250100, 250800, 250800 | 50-66, 125-141, 106-122 |

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| 1384 | HEOPL36 | 910057 | 1394 | 407 - 769 | 2799 | Arg-25 to Gly-50, Ser-86 to Arg-91, Ala-95 to Thr-101. | S0051: 1, T0010: 1, H0510: 1, S6028: 1, H0188: 1, H0687: 1, H0252: 1, H0644: 1, S0036: 1, H0163: 1, H0090: 1, H0551: 1, H0264: 1, H0488: 1, H0056: 1, H0100: 1, L0564: 1, T0041: 1, H0649: 1, H0652: 1, S0344: 1, S0002: 1, L0763: 1, L0761: 1, L0372: 1, L0642: 1, L0643: 1, L0764: 1, L0768: 1, L0766: 1, L0381: 1, L0775: 1, L0526: 1, L0782: 1, L0663: 1, L0665: 1, H0703: 1, H0693: 1, H0520: 1, H0435: 1, L0741: 1, L0751: 1, L0757: 1, S0260: 1, H0445: 1, L0584: 1, L0608: 1, L0604: 1, S0412: 1 and H0506: 1. AR053: 20, AR052: 19, AR039: 19, AR096: 19, AR089: 18, AR033: 17, AR060: 15, AR104: 13, AR055: 8, AR061: 6 L0740: 11, L0439: 9, L0748: 8, H0616: 5, L0666: 5, L0601: 5, S0444: 4, L0776: 4, L0659: 4, L0744: 4, L0747: 4, L0749: 4, | 22q13.31 | 250100, 250800, 250800 | 52-68 |

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1385	HFKJM30	910061	1395	85 - 678	2800	Gly-19 to Ser-25, Ser-55 to Arg-61, Gly-69 to Trp-74, Phe-166 to Thr-171.	H0703: 1, H0520: 1, H0435: 1, S0044: 1, L0751: 1, L0757: 1, L0759: 1, H0445: 1, L0584: 1, L0608: 1 and H0506: 1. AR033: 5, AR060: 2, AR089: 2, AR039: 2, AR061: 1, AR096: 1, AR104: 1, AR055: 1, AR053: 0 L0744: 6, H0013: 4, L0483: 4, S0126: 4, L0777: 4, H0620: 3, L0005: 2, S0022: 2, H0622: 2, L0774: 2, L0748: 2, L0779: 2, L0362: 2, H0624: 1, H0170: 1, S0040: 1, S0212: 1, S0358: 1, S0376: 1, S0360: 1, H0486: 1, H0069: 1, H0156: 1, H0012: 1, S0003: 1, H0038: 1, H0616: 1, H0413: 1, T0042: 1, L0598: 1, L0646: 1, L0740: 1, L0756: 1, L0758: 1, L0599: 1, L0608: 1, S0011: 1, S0026: 1, S0276: 1 and L0465: 1.	
1386	HTBPE35	910083	1396	226 - 762	2801	Leu-35 to Asn-43, Ser-70 to Asp-76,	AR061: 3, AR055: 3, AR096: 3, AR060: 2,	110-126, 50-66

1387	HIBEG14	910301	1397	49 - 966	2802	Pro-87 to Val-97, Pro-105 to Thr-110.		10q24		132-149, 35-51

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L0758: 7, L0768: 2, H0616: 1 and L0151: 1.

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L0794: 8, L0741: 7, L0731: 5, H0556: 4, L0805: 4, L0439: 4, L0749: 4, L0758: 4, S0007: 3, H0351: 3, H0253: 3, H0457: 3, L0456: 3, L0803: 3, L0665: 3, L0777: 3, L0759: 3, H0581: 2, L0769: 2, L0800: 2, L0776: 2, L0659: 2, L0789: 2, L0438: 2, H0547: 2, S0126: 2, L0743: 2, L0744: 2, L0748: 2, L0593: 2, H0543: 2, H0170: 1, H0125: 1, S0354: 1, S0045: 1, S0046: 1, S0132: 1, H0619: 1, H0550: 1, S0222: 1, H0370: 1, H0587: 1, H0497: 1, T0039: 1, H0706: 1, H0618: 1, H0052: 1, H0572: 1, H0050: 1, H0024:

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174900,
180250,
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271245,
278000,
278000,
600095,
600512,
601107,
601130,
602082

1388	HIBCH43	910448	1398	2010-946	2803		
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H0151: 1, H0208: 1, S6026:
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T0114: 1, T0109: 1, H0244:
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H0505: 1, H0085: 1, H0597:
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1390	HDPRX11	910465	1400	222 - 1208	2805				230-260, 17-43, 88-118, 56-85
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1391	HDPBN81	910569	1401	1155 - 2687	2806	Asp-35 to Asp-41, Ser-72 to Glu-77, Lys-110 to His-115, Pro-160 to Gln-165, Arg-309 to Ala-318, Met-325 to Ala-335, Glu-419 to Ala-431, Thr-439 to Trp-449, Pro-489 to Tyr-502.	AR096: 3, AR052: 2, AR089: 2, AR033: 2, AR061: 2, AR104: 2, AR055: 1, AR060: 1, AR053: 1, AR039: 0 L0740: 12, L0766: 6, L0742: 6, H0522: 5, S0278: 4, L0776: 4, H0521: 4, L0779: 4, L0777: 4, H0641: 3, S0142: 3, S0002: 3, L0803: 3, L0805: 3, H0543: 3, H0575: 2, H0264: 2, S0144: 2, S0426: 2, H0529: 2, L0761: 2, L0655: 2, L0807: 2, L0747: 2, L0749: 2, L0752: 2, L0759: 2, L0601: 2, H0265: 1, H0556: 1, S0040: 1, T0049: 1, H0638: 1, H0550: 1, H0586: 1, H0559: 1, H0013: 1, 1, L0652: 1, L0776: 1, L0629: 1, L0656: 1, L0659: 1, L0809: 1, L0790: 1, L0666: 1, H0703: 1, H0684: 1, H0435: 1, H0658: 1, H0672: 1, H0539: 1, H0521: 1, S0176: 1, S0406: 1, H0436: 1, L0439: 1, L0779: 1, H0343: 1, S0436: 1, H0543: 1 and S0424: 1.	361-395, 275-306, 176-195, 216-242, 235-252, 137-157

1392	HSLJF08	910686	1402	244 - 813	2807	Gln-34 to Phe-39, Pro-41 to Ala-49.	AR039: 24, AR053: 21, AR052: 18, AR055: 17, AR033: 14, AR104: 13, AR089: 13, AR096: 13, AR060: 11, AR061: 9 L0748: 14, H0620: 11, L0740: 10, L0747: 10, L0766: 9, L0770: 7, L0662: 7, L0659: 7, L0809: 7, L0803: 5, H0543: 5, H0050: 4, H0023: 4, H0135: 4, L0666: 4, L0664: 4, H0521: 4, S0436: 4, H0265: 3, H0295: 3, H0657: 3, H0341: 3, H0733: 3, H0550: 3, H0370: 3, H0575: 3, H0083: 3, H0494: 3, L0769: 3, L0794: 3, L0655: 3, L0783:	H0069: 1, H0427: 1, H0581: 1, H0194: 1, H0012: 1, H0083: 1, H0266: 1, H0039: 1, H0181: 1, H0634: 1, H0412: 1, H0647: 1, S0344: 1, L0769: 1, L0800: 1, L0794: 1, L0804: 1, L0629: 1, L0789: 1, L0792: 1, H0672: 1, H0539: 1, L0755: 1, H0445: 1, H0665: 1, H0542: 1, H0423: 1 and S0424: 1.	9-34, 129-178, 155-178, 89-107

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1395	HUFBA64	910722	1405	554 - 1144	2810		101-132
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1396	HMTAX31	910866	1406	115 - 666	2811	Ser-59 to Gly-70, Ala-72 to Gln-81, Lys-87 to Arg-101.	AR089: 1, AR033: 0, AR052: 0 L0803: 7, S0358: 3, L0774: 3, L0748: 2, S0354: 1, H0489: 1, H0549: 1, H0036: 1, H0590: 1, H0597: 1, H0510: 1, H0509: 1, L0771: 1, L0768: 1 and H0506: 1.	83-100, 167-183
1397	HSSAL39	910902	1407	97 - 465	2812	Lys-18 to Lys-30, Asp-57 to Thr-64, Arg-133 to Lys-140, Leu-150 to Ala-165.	AR096: 7, AR053: 6, AR089: 6, AR039: 6, AR052: 5, AR060: 5, AR033: 4, AR104: 3, AR061: 1, AR055: 1 L0777: 4, S0358: 2, S0126: 2, H0522: 2, S0116: 1, H0638: 1, H0443: 1, H0014: 1, H0379: 1, S0016: 1, S0374: 1, H0518: 1, H0521: 1 and L0740: 1.	
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1398	HE8QR01	911011	1408	45 - 599	2813	Tyr-80 to Ser-90, Gly-173 to Ser-185.	AR039: 46, AR053: 34, AR052: 29, AR033: 26, AR055: 25, AR089: 23,	108-124, 11-28

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1400	HTXDX21	911129	1410	79 - 1170	2815		
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1401	HMSHP51	911153	1411	101 - 1447	2816				125-141, 251-267
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1402	HJPBB56	778816	1412	85 - 483	2817			
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115-151, 27-59, 86-107, 177-198, 1-25, 202-218

H0556: 494, H0265: 241, H0046: 107, L0601: 101, H0584: 98, H0521: 89, H0543: 78, S0027: 57, H0542: 57, L0591: 52, S0418: 49, S3014: 48, S0420: 46, H0559: 46, L0593: 44, L0596: 43, S0126: 42, H0266: 41, S0046: 38, S0152: 37, H0052: 36, H0617: 35, H0056: 34, H0134: 34, L0595: 33, S0040: 32, S0212: 32, H0561: 32, H0069: 31, H0286: 30, H0585: 29, S0132: 29, L0666: 29, H0083: 26, H0623: 25, H0657: 24, S0278: 24, H0575: 24, H0341: 23, H0494: 23, S0045: 21, L0659: 21, H0666: 21, L0588: 21, L0592: 21, H0090: 20, S0344: 20, L0751: 20, L0754: 20, S0194: 20, H0040: 19, H0125: 18, H0618: 18, H0318: 18, L0663: 18, H0144: 18, H0013: 17, S0022: 17, H0424: 17, H0135: 17,

T0042: 17, H0658: 17, S0011: 17, S0192: 17, S0360: 16, T0040: 15, H0292: 15, H0063: 15, L0748: 15, H0136: 15, H0167: 14, S0358: 14, S0222: 14, H0599: 14, H0124: 14, H0087: 14, H0551: 14, L0775: 14, L0664: 14, H0519: 14, H0518: 14, S0037: 14, H0250: 13, H0253: 13, H0581: 13, H0457: 13, S0028: 13, T0002: 12, H0141: 12, H0140: 12, T0110: 12, H0014: 12, H0288: 12, H0628: 12, H0412: 12, S0144: 12, S0002: 12, L0662: 12, L0653: 12, S0032: 12, H0667: 12, H0370: 11, H0290: 11, H0622: 11, S0150: 11, H0641: 11, H0522: 11, L0750: 11, L0608: 11, H0665: 11, S0424: 11, H0580: 10, H0333: 10, S6028: 10, H0284: 10, H0591: 10, H0634: 10, L0744: 10, L0757: 10, H0352: 10,

T0039: 9, L0471: 9, H0620: 9, S0036: 9, H0560: 9, H0529: 9, L0372: 9, L0665: 9, H0435: 9, L0740: 9, H0445: 9, L0597: 9, H0423: 9, H0650: 8, H0431: 8, H0586: 8, H0257: 8, H0486: 8, H0038: 8, H0616: 8, H0264: 8, H0059: 8, H0100: 8, H0625: 8, L0369: 8, L0363: 8, L0378: 8, L0382: 8, H0555: 8, H0631: 8, L0755: 8, H0624: 7, H0255: 7, H0587: 7, H0497: 7, H0492: 7, H0635: 7, S0049: 7, L0388: 7, L0774: 7, L0654: 7, L0657: 7, H0670: 7, H0660: 7, H0672: 7, L0742: 7, L0439: 7, L0747: 7, L0752: 7, L0758: 7, L0599: 7, S0342: 6, H0295: 6, H0638: 6, S0444: 6, H0156: 6, T0115: 6, S0468: 6, H0545: 6, H0123: 6, H0024: 6, H0606: 6, S0210: 6, S0426: 6, L0381: 6, L0655: 6, L0383: 6, H0520: 6, H0689: 6, H0659: 6, L0602: 6, H0214: 6, H0159: 5, T0049: 5, H0661: 5,

S0442: 5, H0619: 5, L0717: 5, S0010: 5, H0309: 5, H0544: 5, H0050: 5, H0012: 5, T0010: 5, H0594: 5, H0188: 5, H0615: 5, H0213: 5, H0553: 5, H0644: 5, H0181: 5, H0268: 5, S0038: 5, H0429: 5, H0646: 5, S0142: 5, S0208: 5, L0763: 5, L0770: 5, L0767: 5, L0565: 5, H0547: 5, H0682: 5, S0328: 5, H0627: 5, L0589: 5, H0668: 5, S0196: 5, H0422: 5, S0116: 4, H0662: 4, H0402: 4, S0356: 4, S0354: 4, S0007: 4, H0550: 4, H0441: 4, H0438: 4, H0643: 4, T0109: 4, H0075: 4, H0036: 4, S0182: 4, H0327: 4, H0546: 4, H0051: 4, H0375: 4, L0456: 4, H0647: 4, L0637: 4, L0646: 4, L0764: 4, L0648: 4, L0375: 4, L0518: 4, H0690: 4, H0436: 4, H0626: 4, L0745: 4, L0731: 4, H0171: 3, H0218: 3, S0134: 3, S0282: 3, H0664: 3, H0458: 3, S0376: 3, S0300: 3, H0261: 3, H0549: 3,

H0455: 3, T0060: 3, H0427: 3, H0042: 3, T0082: 3, H0590: 3, S0346: 3, H0421: 3, H0196: 3, H0194: 3, H0204: 3, H0086: 3, S0051: 3, H0510: 3, H0267: 3, S0003: 3, H0039: 3, T0006: 3, H0032: 3, H0674: 3, H0068: 3, H0272: 3, H0413: 3, L0564: 3, H0280: 3, H0130: 3, S0422: 3, L0771: 3, L0768: 3, L0387: 3, L0376: 3, L0368: 3, H0648: 3, S0330: 3, S0380: 3, S0044: 3, S0390: 3, S0260: 3, H0444: 3, H0595: 3, S0434: 3, L0587: 3, H0653: 3, L0600: 3, H0149: 2, H0685: 2, H0294: 2, S0114: 2, H0583: 2, S0180: 2, S0298: 2, H0306: 2, H0449: 2, H0459: 2, H0675: 2, H0637: 2, H0393: 2, H0437: 2, H0592: 2, S0005: 2, H0574: 2, H0256: 2, L0623: 2, L0586: 2, H0251: 2, T0103: 2, H0150: 2, H0041: 2, N0006: 2, H0172: 2, H0081: 2, H0200: 2, N0007: 2, H0071: 2, H0355: 2,

S0312: 2, S0250: 2, S0214:
2, H0328: 2, H0688: 2,
L0483: 2, H0033: 2, H0031:
2, L0142: 2, L0143: 2,
L0455: 2, S0366: 2, H0316:
2, H0598: 2, H0163: 2,
T0067: 2, H0488: 2, L0351:
2, H0366: 2, S0440: 2,
H0509: 2, H0132: 2, L0762:
2, L0769: 2, L0638: 2,
L0642: 2, L0521: 2, L0766:
2, L0386: 2, L0540: 2,
S0006: 2, S0374: 2, S0148:
2, H0684: 2, H0539: 2,
S0146: 2, H0576: 2, S0392:
2, S0206: 2, L0741: 2,
L0777: 2, L0753: 2, L0759:
2, S0436: 2, L0605: 2,
L0590: 2, L0604: 2, L0362:
2, L0366: 2, H0216: 2,
H0170: 1, H0395: 1, H0219:
1, H0224: 1, H0225: 1,
H0161: 1, H0220: 1, H0158:
1, H0222: 1, H0686: 1,
S6024: 1, L0002: 1, H0656:
1, L0785: 1, H0419: 1,
S0001: 1, H0254: 1, H0671:
1, H0176: 1, H0305: 1,
S0348: 1, L0005: 1, S0408:
1, S0410: 1, T0008: 1,

L0428: 1, H0722: 1, H0208: 1, H0645: 1, S6026: 1, H0351: 1, H0411: 1, L0394: 1, S0220: 1, H0392: 1, H0357: 1, H0409: 1, H0403: 1, H0282: 1, H0600: 1, H0362: 1, H0331: 1, H0491: 1, H0485: 1, H0270: 1, T0112: 1, H0122: 1, H0004: 1, H0390: 1, T0048: 1, H0505: 1, H0085: 1, H0183: 1, H0205: 1, H0596: 1, H0597: 1, H0231: 1, H0121: 1, H0439: 1, L0041: 1, H0009: 1, N0003: 1, S0050: 1, L0163: 1, S0388: 1, H0275: 1, H0399: 1, H0354: 1, H0271: 1, H0416: 1, S0318: 1, S0316: 1, H0428: 1, T0023: 1, H0604: 1, H0180: 1, H0182: 1, L0055: 1, H0165: 1, H0166: 1, H0673: 1, H0361: 1, H0189: 1, H0400: 1, H0379: 1, H0477: 1, H0433: 1, H0269: 1, H0022: 1, T0041: 1, L0475: 1, S0382: 1, S0464: 1, S0306: 1, H0131: 1, H0633: 1, H0026: 1, L0640: 1, L0371: 1, L0667: 1,

1405	HUCPE29	897919	1415	38-823	2820			
					Gln-26 to Ala-39, Cys-48 to His-55, Pro-79 to Arg-87, Ala-124 to Pro-130, Leu-220 to Gly-225.	AR096: 1, AR104: 1, AR060: 1, AR089: 1, AR055: 1, AR033: 1, AR039: 0, AR061: 0, AR053: 0, AR052: 0 H0081: 2, S0192: 2, H0717: 1 and S0420: 1.	L0772: 1, L0373: 1, L0374: 1, L0765: 1, L0773: 1, L0561: 1, L0650: 1, L0551: 1, L0776: 1, L0606: 1, L0661: 1, L0629: 1, L0628: 1, L0527: 1, L0636: 1, L0542: 1, L0526: 1, L0783: 1, L0809: 1, S0052: 1, S0428: 1, H0683: 1, H0710: 1, H0187: 1, H0478: 1, L0609: 1, L0612: 1, L0780: 1, S0394: 1, L0485: 1, L0581: 1, L0361: 1, H0217: 1, S0242: 1, S0276: 1, S0042: 1, S0384: 1 and H0506: 1.	193-220, 1-17, 139-155

[0056]   The first column in Table 1 provides the gene number in the application corresponding to the clone identifier. The second column in Table 1 provides a unique "Clone ID NO:Z" for a cDNA clone related to each contig sequence disclosed in Table 1. This clone ID references the cDNA clone which contains at least the 5' most sequence of the assembled contig and at least a portion of SEQ ID NO:X was determined by directly sequencing the referenced clone. The reference clone may have more sequence than described in the sequence listing or the clone may have less. In the vast majority of cases, however, the clone is believed to encode a full-length polypeptide. In the case where a clone is not full-length, a full-length cDNA can be obtained by methods described elsewhere herein.

[0057]   The third column in Table 1 provides a unique "Contig ID" identification for each contig sequence. The fourth column provides the "SEQ ID NO:" identifier for each of the contig polynucleotide sequences disclosed in Table 1. The fifth column, "ORF (From-To)", provides the location (i.e., nucleotide position numbers) within the polynucleotide sequence "SEQ ID NO:X" that delineate the preferred open reading frame (ORF) shown in the sequence listing and referenced in Table 1, column 6, as SEQ ID NO:Y. Where the nucleotide position number "To" is lower than the nucleotide position number "From", the preferred ORF is the reverse complement of the referenced polynucleotide sequence.

[0058]   The sixth column in Table 1 provides the corresponding SEQ ID NO:Y for the polypeptide sequence encoded by the preferred ORF delineated in column 5. In one embodiment, the invention provides an amino acid sequence comprising, or alternatively consisting of, a polypeptide encoded by the portion of SEQ ID NO:X delineated by "ORF (From-To)". Also provided are polynucleotides encoding such amino acid sequences and the complementary strand thereto.

[0059]   Column 7 in Table 1 lists residues comprising epitopes contained in the polypeptides encoded by the preferred ORF (SEQ ID NO:Y), as predicted using the algorithm of Jameson and Wolf, (1988) Comp. Appl. Biosci. 4:181-186. The Jameson-Wolf antigenic analysis was performed using the computer program PROTEAN (Version 3.11 for the Power MacIntosh, DNASTAR, Inc., 1228 South Park Street Madison, WI). In specific embodiments, polypeptides of the invention comprise, or alternatively consist of, at least one, two, three, four, five or more of the predicted epitopes as described in Table

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1. It will be appreciated that depending on the analytical criteria used to predict antigenic determinants, the exact address of the determinant may vary slightly.

[0060]   Column 8 in Table 1 provides an expression profile and library code: count for each of the contig sequences (SEQ ID NO:X) disclosed in Table 1, which can routinely be combined with the information provided in Table 4 and used to determine the tissues, cells, and/or cell line libraries which predominantly express the polynucleotides of the invention. The first number in column 8 (preceding the colon), represents the tissue/cell source identifier code corresponding to the code and description provided in Table 4. For those identifier codes in which the first two letters are not "AR", the second number in column 8 (following the colon) represents the number of times a sequence corresponding to the reference polynucleotide sequence was identified in the tissue/cell source. Those tissue/cell source identifier codes in which the first two letters are "AR" designate information generated using DNA array technology. Utilizing this technology, cDNAs were amplified by PCR and then transferred, in duplicate, onto the array. Gene expression was assayed through hybridization of first strand cDNA probes to the DNA array. cDNA probes were generated from total RNA extracted from a variety of different tissues and cell lines. Probe synthesis was performed in the presence of ^{33}P dCTP, using oligo(dT) to prime reverse transcription. After hybridization, high stringency washing conditions were employed to remove non-specific hybrids from the array. The remaining signal, emanating from each gene target, was measured using a Phosphorimager. Gene expression was reported as Phosphor Stimulating Luminescence (PSL) which reflects the level of phosphor signal generated from the probe hybridized to each of the gene targets represented on the array. A local background signal subtraction was performed before the total signal generated from each array was used to normalize gene expression between the different hybridizations. The value presented after "[array code]:" represents the mean of the duplicate values, following background subtraction and probe normalization. One of skill in the art could routinely use this information to identify normal and/or diseased tissue(s) which show a predominant expression pattern of the corresponding polynucleotide of the invention or to identify polynucleotides which show predominant and/or specific tissue and/or cell expression.

[0061]   Column 9 in Table 1 provides a chromosomal map location for certain polynucleotides of the invention. Chromosomal location was determined by finding exact

matches to EST and cDNA sequences contained in the NCBI (National Center for Biotechnology Information) UniGene database. Each sequence in the UniGene database is assigned to a "cluster"; all of the ESTs, cDNAs, and STSs in a cluster are believed to be derived from a single gene. Chromosomal mapping data is often available for one or more sequence(s) in a UniGene cluster; this data (if consistent) is then applied to the cluster as a whole. Thus, it is possible to infer the chromosomal location of a new polynucleotide sequence by determining its identity with a mapped UniGene cluster.

[0062] A modified version of the computer program BLASTN (Altshul et al., J. Mol. Biol. 215:403-410 (1990); and Gish and States, Nat. Genet. 3:266-272 (1993)) was used to search the UniGene database for EST or cDNA sequences that contain exact or near-exact matches to a polynucleotide sequence of the invention (the 'Query'). A sequence from the UniGene database (the 'Subject') was said to be an exact match if it contained a segment of 50 nucleotides in length such that 48 of those nucleotides were in the same order as found in the Query sequence. If all of the matches that met this criteria were in the same UniGene cluster, and mapping data was available for this cluster, it is indicated in Table 1 under the heading "Cytologic Band". Where a cluster had been further localized to a distinct cytologic band, that band is disclosed; where no banding information was available, but the gene had been localized to a single chromosome, the chromosome is disclosed.

[0001] Once a presumptive chromosomal location was determined for a polynucleotide of the invention, an associated disease locus was identified by comparison with a database of diseases which have been experimentally associated with genetic loci. The database used was the Morbid Map, derived from OMIM™ (supra). If the putative chromosomal location of a polynucleotide of the invention (Query sequence) was associated with a disease in the Morbid Map database, an OMIM reference identification number was noted in column 10, Table 1, labelled "OMIM Disease Reference(s)". Table 5 is a key to the OMIM reference identification numbers (column 1), and provides a description of the associated disease in Column 2.

TABLE 2

Clone ID NO:Z	Contig ID:	SEQ ID NO:X	Analysis Method	PFam/NR Description	PFam/NR Accession Number	Score/ Percent Identity	NT From	NT To
HLTDP38	465120	14	blastx.2	(AF090930) PRO0478 [Homo sapiens]	gb|AAF24045.1|AF09 0930 1	78%	117	7
HMAGF64	562775	43	blastx.2	AmpG-signal transducer [Escherichia coli]	emb|CAA57653.1|	98% 100% 91% 26%	482 3 280 358	1027 296 489 516
HLHSC60	638175	82	blastx.2	PRO2730.	sp|AAG35553|AAG35 553	99%	351	722
H6ESA95	638229	83	blastx.2	CDNA FLJ11773 fis, clone HEMBA1005852.	sp|BAB13907|BAB13 907	89%	322	783
HKMAA36	638339	84	blastx.2	(AF065388) tetraspan NET-1 [Homo sapiens]	gb|AAC17119.1|	81%	169	888
HISBE12	645267	86	blastx.2	(AL136944) hypothetical protein [Homo sapiens]	emb|CAB66878.1|	92%	15	1193
HEBAE43	645268	87	blastx	(AF161509) HSPC160 [Homo sapiens]	gb|AAF29124.1|AF16 1509 1	100%	62	520
HAIDX85	672653	107	blastx.2	CDNA: FLJ23091 fis, clone LNG07220.	sp|BAB15540|BAB15 540	96%	954	1802
HLJDK82	678819	111	blastx.2	GK001.	sp|Q9NRG3|Q9NRG3	99%	238	1683
HMCFA76	684293	114	blastx.2	Hypothetical 13.0 kDa protein.	sp|AAG29199|AAG29 199	41%	112	447
HTHCM28	684309	115	blastx.2	(AJ223830) ARE1 [Rattus norvegicus]	emb|CAA11566.1|	97%	7	1392
HCE1U38	685495	119	blastx.2	(AL136617) hypothetical protein [Homo sapiens]	emb|CAB66552.1|	99%	24	1067

HE8EQ09	695741	125	blastx.2	(AL049929) hypothetical protein [Homo sapiens]	emb|CAB43210.1|	99%	195	1184
HMEIU36	708053	135	blastx.2	TUMOR SUPPRESSOR (LUCA-1).	sp|Q12794|Q12794	45% 53%	153 561	533 605
HDFAB91	731889	173	blastx.2	(AF184227) tty [Drosophila melanogaster]	gb|AAD55738.1|AF18 4227_1	28% 36%	339 268	953 357
HSDJN50	740786	187	blastx.2	Cation efflux system protein CzcD. [Escherichia coli]	dbj|BAA35414.1|	100%	2348	1410
HSRFP52	745408	202	blastx.2	STRABISMUS.	sp|O45030|O45030	48% 34% 31%	479 58 58	1276 468 327
HE8NL29	750243	207	HMMER 1.8	PFAM: RNA recognition motif (aka RRM, RBD, or RNP domain)	PF00076	5.51	460	531
HHGBS74	753235	215	blastx.2	coded for by C. elegans cDNA yk34b1.5; coded for by C. elegans 11 coded for by C. elegans cDNA yk46e8.3; coded fo	gb|AAB00699.1|	51% 50% 80% 88% 71%	322 1057 1581 1539 263	1449 1554 1658 1589 325
HTAAT39	753289	216	blastx.2	CD84 [Homo sapiens]	gb|AAD04232.1|	34% 36%	408 179	884 409
HMGBP83	759888	227	blastx.2	ZINC TRANSPORTER LIKE 2.	sp|Q9JKN1|Q9JKN1	94%	162	1289
HTEIA85	778081	264	blastx.2	hypothetical protein [Arabidopsis thaliana]	emb|CAB10408.1|	45% 29%	653 23	1582 373
HSHBF13	778087	265	blastx	Similarity to Yeast E1-E2 ATPase YEL031W (SW:YED1_YEAST; cDNA 11 EMBL:D37288	emb|CAB05683.1|	63% 33% 88%	66 309 9	344 683 110

				comes from this gene; cDNA EST EMBL				
HFXGI63	799513	337	blastx.2	CDNA: FLJ21463 fis, clone COL04765.	sp|BAB15071|BAB15071	71% 82%	2424 2510	2212 2424
HSLDO85	801935	340	blastx.2	HSPC171.	sp|Q9NZZ7|Q9NZZ7	78% 96%	100 437	486 514
HLKDC74	812760	357	blastx.2	(AF117297) TNF receptor superfamily activation-inducible protein [Homo sapiens]	gb|AAD19694.1|	95%	195	932
HWLJX39	815669	360	blastx.2	PUTATIVE FATTY ACID DESATURASE MLD.	sp|O15121|O15121	64%	84	1025
HMIAN37	828988	375	blastx	Similarity to Yeast MSP1 protein (TAT-binding homolog 4) (SW:MSP1_YEAST) [Caenorhabditis elegans]	gnl|PID|e1347884	79% 53% 23% 38% 25%	412 742 91 337 247	729 1005 246 390 366
HPFDI25	829071	376	blastx.2	CDNA FLJ20533 FIS, CLONE KAT10931.	sp|Q9NWY5|Q9NWY5	98%	380	862
HFKEH50	833067	401	blastx.2	(AK000833) unnamed protein product [Homo sapiens]	dbj|BAA91394.1|	98% 96%	356 198	1603 377
HELHM15	834810	404	blastx.2	CDNA FLJ12133 fis, clone MAMMA1000278.	sp|BAB13983|BAB13983	97% 97% 100%	834 1361 1072	394 1068 827
HTEJP13	834931	405	blastx.2	R27328 2.	sp|O75295|O75295	93%	23	268
HBJNB08	836997	413	blastx.2	T10O22.22.	sp|Q9LM25|Q9LM25	34%	118	921
HTJMQ74	838145	423	blastx.2	(AK000996) unnamed protein product [Homo sapiens]	dbj|BAA91458.1|	100%	220	1044

HOHCE56	838619	424	blastx.2	(AF177203) cerebral cell adhesion molecule [Homo sapiens]	gb|AAD51367.1|AF17 7203_1	98% 95% 100% 95%	517 335 273 1754	1761 541 344 1819
HSLEK65	839237	428	blastx.2	Arginine transport system protein ArtQ. [Escherichia coli]	dbj|BAA35576.1|	99%	17	730
HWGAF42	839272	429	blastx.2	(AJ245820) type I transmembrane receptor [Homo sapiens]	emb|CAB57950.1|	99% 94% 32% 35% 34% 31% 23%	8 336 11 89 110 83 12	367 650 298 382 271 271 287
HCRBB73	844034	450	blastx.2	CG8311 PROTEIN.	sp|Q9V7R7|Q9V7R7	42%	466	1209
HWHHU11	844529	451	blastx.2	(AJ243649) putative metal transporter [Homo sapiens]	emb|CAB59979.1|	90% 93% 100%	85 597 569	624 1058 625
HLWAR77	847144	458	blastx.2	(AF119815) G-protein-coupled receptor [Homo sapiens]	gb|AAD22047.1|	99%	2	997
HCE2W33	847388	459	blastx.2	CDNA: FLJ21676 fis, clone COL09164.	sp|BAB15113|BAB15 113	84% 100%	915 772	1820 1080
HSOAC39	847431	460	blastx.2	predicted using Genefinder; Similarity to Mouse FK506-binding protein (SW:FKB3_MOUSE) [Caenorhabditis elegans]	emb|CAA92994.1|	45%	170	511
HHEVC06	851355	490	blastx.2	pva1 [Plasmodium vivax]	emb|CAA63219.1|	49% 60%	560 804	784 893

ID				Description	Accession	%		
HDPBI36	852845	499	blastx.2	hypothetical protein DKFZp564J0863.1 - human (fragment)	pir|T17320|T17320	81% 92%	26 529	541 612
HCFNG65	853186	504	blastx.2	(AK001882) unnamed protein product [Homo sapiens]	dbj|BAA91959.1|	98%	30	908
HTOHA37	856923	530	blastx.2	(AF132951) CGI-17 protein [Homo sapiens]	gb|AAD27726.1|AF132951_1	98%	9	881
HDPFH27	859875	597	blastx.2	APOPTOSIS-INDUCING FACTOR AIF.	sp|O95831|O95831	100%	95	1933
HAMGP34	861668	620	blastx.2	(AF065389) tetraspan NET-4 [Homo sapiens]	gb|AAC17120.1|	43%	17	736
HNECI74	862042	624	blastx.2	PRO1902.	sp|Q9UHT1|Q9UHT1	63%	248	394
HHFMA59	862567	633	blastx.2	(AF126024) stromal cell protein isoform [Homo sapiens]	gb|AAF17233.1|AF126024_1	71%	249	749
HCE3X63	862807	636	blastx.2	Similar to D.melanogaster cadherin-related tumor suppressor [Homo sapiens]	dbj|BAA13407.1|	98% 96% 36%	314 243 226	2422 317 324
HCE2K01	862851	637	blastx.2	NEURAL MEMBRANE PROTEIN 35.	sp|O88407|O88407	89% 95%	103 599	603 1051
HBXGQ49	863848	652	blastx.2	(AK001692) unnamed protein product [Homo sapiens]	dbj|BAA91840.1|	48%	138	1565
HCECL08	863887	653	blastx.2	(AB025904) carbonic anhydrase 14 [Homo sapiens]	dbj|BAA85002.1|	99% 98%	207 699	704 992
HEMET46	863977	656	blastx.2	(AF060883) endomucin [Mus musculus]	gb|AAD05208.1|	37%	201	983
HCEVF41	866297	688	blastx.2	(AJ245937) glucose	emb|CAB75702.1|	95%	109	1071

Clone	No.	No.	Method	Description	Accession	% Identity	Start	End
				transporter [Homo sapiens]		90% 52% 32%	53 963 616	112 1112 888
HSSKF43	866388	691	blastx.2	(AB028127) mannosyltransferase [Homo sapiens]	dbj|BAB18567.1|	93% 100% 75%	55 732 2	744 977 112
HKATA81	867546	708	blastx	(AF161512) HSPC163 [Homo sapiens]	gb|AAF29127.1|AF16 1512_1	100%	51	467
HDPMO69	868484	737	blastx	(AK002135) unnamed protein product [Homo sapiens]	dbj|BAA92099.1|	100%	120	941
HFTCV95	869639	759	blastx.2	(AF151821) CGI-63 protein [Homo sapiens]	gb|AAD34058.1|AF15 1821_1	97%	38	1156
HTLEI29	870142	770	blastx.2	(AC005622) R30953_1 [Homo sapiens]	gb|AAC34467.1|	100% 66%	106 1235	1239 1351
HSRAV54	871264	797	blastx.2	PRO2550.	sp|AAG35515|AAG35 515	70%	1626	1327
HHEOI72	871663	806	blastx	ZC513.5 gene product [Caenorhabditis elegans]	gb|AAC48267.1|	34% 46% 42% 62%	396 861 1083 1401	824 1118 1373 1472
HDABD89	872527	833	blastx	(AF131781) Unknown [Homo sapiens]	gb|AAD20044.1|	99%	345	1514
HHFJG66	873355	836	blastx.2	(AC006955) hypothetical protein [Arabidopsis thaliana]	gb|AAD22340.1|AC00 6955_26	34% 39% 17%	1475 1013 804	2494 1774 920
HTTEL61	873679	838	blastx.2	(AL137200) hypothetical protein [Homo sapiens]	emb|CAB69910.1|	66%	364	762
HHEVQ56	874064	841	blastx.2	(AC009322) Unknown protein [Arabidopsis]	gb|AAD55479.1|AC00 9322_19	36% 50%	313 203	624 298

					%		
HSLJR04	874369	845	blastx.2	thaliana] Cell division protein FtsK. [Escherichia coli]	dbj|BAA35615.1|	93% 95% 86% 100% 65% 100% 93% 96% 90% 45% 51% 40% 51% 25% 60% 27% 45% 44% 36% 27% 25% 34% 34% 36% 30% 29%	368 1787 864 595 1476 1031 1165 1887 1346 840 173 846 858 951 858 499 1022 971 1034 583 493 1019 670 493 849 855	18 1473 568 344 1147 867 1031 1789 1221 586 36 565 742 610 775 296 861 870 870 326 326 897 404 410 745 757
HFATS83	875269	863	blastx.2	put. Cyt repressor (aa 1-341) [Escherichia coli]	emb|CAA27318.1|	94%	93	467
HWLMC49	875704	875	blastx.2	(AK000820) unnamed protein product [Homo	dbj|BAA91388.1|	80%	176	550

				sapiens]				
HDABK73	876546	894	blastx.2	zinc finger protein - Arabidopsis thaliana	pir|T46147|T46147	32% 26% 31%	403 1207 1540	936 1509 1662
HWAHE17	879774	969	blastx.2	Small rec.	sp|AAF43032|AAF43032	46% 73%	259 612	609 656
HWAEG32	879900	970	blastx	Hypothetical protein in pth-prsA intergenic region [Escherichia coli]	dbj|BAA36064.1|	100% 97%	3 371	368 472
HSDFD90	880039	976	blastx	Na+/H+ antiporter protein nhaB [Escherichia coli]	dbj|BAA36033.1|	98% 100% 88%	67 3 47	723 44 73
HHENP77	880178	979	blastx.2	Hypothetical 79.4 kDa protein.	sp|CAC09450|CAC09450	100%	770	2893
HNFIB27	880254	982	blastx.2	B0034.3 gene product [Caenorhabditis elegans]	gb|AAC38816.1|	26% 26% 46%	156 1065 77	1004 1529 115
HNSMB73	883132	1075	blastx.2	19.5 protein [Mus musculus]	gb|AAA37113.1|	36% 45%	7 368	375 592
HEEAX26	883176	1080	blastx.2	(AX058090) unnamed protein product [Homo sapiens]	emb|CAC22478.1|	99% 100% 42%	281 1067 1566	1069 1666 1622
HISBV17	883238	1083	blastx.2	transporter protein [Homo sapiens]	gb|AAB47236.1|	46%	1	525
H2CBE07	883335	1092	blastx.2	PEPTIDE/HISTIDINE TRANSPORTER.	sp|O09014|O09014	87% 88%	598 305	1314 592
HTOAW80	883376	1097	blastx.2	putative [Caenorhabditis elegans]	gb|AAA27934.1|	28%	363	1385
HELFG05	883434	1102	blastx.2	(AK001914) unnamed protein product [Homo sapiens]	dbj|BAA91975.1|	98%	3587	2331

ID			blast	Description	Accession	%	Start	End
HSLEN72	884818	1126	blastx.2	sapiens] probable membrane protein b0847 - Escherichia coli	pir|G64822|G64822	89% 100%	67 2	435 67
HHFJI87	888142	1161	blastx.2	(AK000224) unnamed protein product [Homo sapiens]	dbj|BAA91020.1|	44%	306	923
HOUGB95	888279	1165	blastx.2	WUGSC:H_DJ0593H12.2 PROTEIN.	sp|O95003|O95003	100%	73	795
HSLKC45	889371	1174	blastx.2	(AF093673) layilin [Cricetulus griseus]	gb|AAC68695.1|	84% 57%	124 1204	1239 1245
HSLFZ79	892016	1185	blastx.2	ORF_f447 [Escherichia coli]	gb|AAA97114.1|	100%	173	1513
HDQGN46	892018	1186	blastx.2	OX2 receptor precursor.	sp|AAF98555|AAF98555	58% 38%	400 265	1323 381
HPIAN49	892164	1188	blastx.2	probable membrane protein b0847 - Escherichia coli	pir|G64822|G64822	100%	1	1251
HLQFF81	893535	1194	blastx.2	(AB015192) 50 kD glycoprotein (Rh50) [Mus musculus]	dbj|BAA32441.1|	55% 50%	3 695	374 730
HTPGG10	895024	1211	blastx.2	(AF072128) claudin-2 [Mus musculus]	gb|AAC27079.1|	83%	192	530
HKAHR43	895539	1214	blastx	(AF128113) prominin-like protein [Mus musculus]	gb|AAD22488.1|AF128113_1	72%	1830	2606
HWHGQ46	895880	1219	blastx.2	CGI-78 PROTEIN.	sp|Q9Y386|Q9Y386	100% 88% 76%	514 1161 1214	1161 1214 1264
HJPAZ12	896370	1225	blastx	RP140-upstream [Drosophila melanogaster]	gb|AAD40352.2|	32%	329	898
HPTVU91	896517	1227	blastx	(AB012692) CAC-1 [Homo sapiens]	dbj|BAA87335.1|	62% 39%	411 606	340 469

HETJW92	896874	1232	blastx.2	MAL protein [Homo sapiens]	gb|AAA36196.1|	40%	37	429
HTTBH18	897055	1235	blastx	one short region of weak similarity to S. cerevisiae protease A11 [Caenorhabditis elegans]	gb|AAC69037.1|	50% 43% 43% 38%	1050 239 570 713	1295 307 638 790
HSLAS08	897262	1237	blastx.2	(AE000294) regulator of length of O-antigen component of lipopolysaccharide chains [Escherichia coli]	gb|AAC75088.1|	100%	16	975
HTLJA52	897328	1238	blastx	lysozyme (EC 3.2.1.17) - bare-faced crassow	pir|JE0185|JE0185	64% 48%	199 415	402 582
HEBFI34	897852	1240	blastx.2	(AF242523) hypothetical transmembrane protein SBBI53 [Homo sapiens]	gb|AAF99603.1|AF24 2523_1	89%	1140	424
HHFJV91	898152	1250	blastx.2	(AK024046) unnamed protein product [Homo sapiens]	dbj|BAB14797.1|	91%	2	502
HABAD39	898401	1253	blastx	signal recognition particle receptor beta subunit [Mus musculus]	gb|AAA69976.1|	86%	90	848
HSUMA53	898943	1259	blastx.2	weak similarity to C. elegans predicted protein C33G8.2 [Caenorhabditis elegans]	gb|AAB00721.1|	36%	367	843
HHFNI70	899099	1260	blastx	glycoprotein CD44 [Rattus norvegicus]	gb|AAA53532.1|	30% 37%	177 408	422 551
HAHCK43	901386	1275	blastx.2	(AB028228) ZCF61 [Arabidopsis thaliana]	dbj|BAA87953.1|	30%	7	516

HHEPR52	904360	blastx	(AF151020) HSPC186 [Homo sapiens]	gb|AAF36106.1|AF15 1020 1	97%	146	568
HEOPR46	904471	blastx.2	SERPENTINE RECEPTOR.	sp|Q9QZT2|Q9QZT2	39%	62	547
HTLIT05	904861	blastx	(AB029334) HrPET-1 [Halocynthia roretzi]	dbj|BAA81907.1|	41% / 42%	171 / 672	704 / 998
HSKAS66	905017	blastx	(AF004876) 54TMp [Homo sapiens]	gb|AAD01206.1|	66% / 50%	277 / 160	648 / 231
HLTAG56	905871	blastx	(AK000922) unnamed protein product [Homo sapiens]	dbj|BAA91427.1|	59% / 68% / 71% / 34%	136 / 1228 / 910 / 1136	834 / 1560 / 1137 / 1231
HWLCJ12	906285	blastx.2	ZZ:beta-Gal' IgG-binding fusion protein [unidentified cloning 1	gb|AAB00807.1|	88%	2056	2235
HTHCK88	906306	blastx	(AK001651) unnamed protein product [Homo sapiens]	dbj|BAA91811.1|	100% / 99% / 98%	457 / 1327 / 299	1272 / 1731 / 454
HELGY02	907105	blastx.2	Similar to sulfatase [Caenorhabditis elegans]	gb|AAA83618.1|	50% / 59%	354 / 2379	1655 / 2687
HIBCH43	910448	blastx.2	(AK000373) unnamed protein product [Homo sapiens]	dbj|BAA91121.1|	98%	113	1225

[0002]   Table 2 further characterizes certain encoded polypeptides of the invention, by providing the results of comparisons to protein and protein family databases. The first column provides a unique clone identifier, "Clone ID NO:", corresponding to a cDNA clone disclosed in Table 1. The second column provides the unique contig identifier, "Contig ID:" which allows correlation with the information in Table 1. The third column provides the sequence identifier, "SEQ ID NO:", for the contig polynucleotide sequences. The fourth column provides the analysis method by which the homology/identity disclosed in the Table was determined. The fifth column provides a description of the PFAM/NR hit identified by each analysis. Column six provides the accession number of the PFAM/NR hit disclosed in the fifth column. Column seven, score/percent identity, provides a quality score or the percent identity, of the hit disclosed in column five. Comparisons were made between polypeptides encoded by polynucleotides of the invention and a non-redundant protein database (herein referred to as "NR"), or a database of protein families (herein referred to as "PFAM"), as described below.

[0003]   The NR database, which comprises the NBRF PIR database, the NCBI GenPept database, and the SIB SwissProt and TrEMBL databases, was made non-redundant using the computer program nrdb2 (Warren Gish, Washington University in Saint Louis). Each of the polynucleotides shown in Table 1, column 3 (e.g., SEQ ID NO:X or the 'Query' sequence) was used to search against the NR database. The computer program BLASTX was used to compare a 6-frame translation of the Query sequence to the NR database (for information about the BLASTX algorithm please see Altshul et al., J. Mol. Biol. 215:403-410 (1990); and Gish and States, Nat. Genet. 3:266-272 (1993). A description of the sequence that is most similar to the Query sequence (the highest scoring 'Subject') is shown in column five of Table 2 and the database accession number for that sequence is provided in column six. The highest scoring 'Subject' is reported in Table 2 if (a) the estimated probability that the match occurred by chance alone is less than 1.0e-07, and (b) the match was not to a known repetitive element. BLASTX returns alignments of short polypeptide segments of the Query and Subject sequences which share a high degree of similarity; these segments are known as High-Scoring Segment Pairs or HSPs. Table 2 reports the degree of similarity between the Query and the Subject for each HSP as a percent identity in Column 7. The percent identity is determined by dividing the number of exact matches between the two aligned sequences in the HSP, dividing by the number

of Query amino acids in the HSP and multiplying by 100. The polynucleotides of SEQ ID NO:X which encode the polypeptide sequence that generates an HSP are delineated by columns 8 and 9 of Table 2.

[0004]   The PFAM database, PFAM version 2.1, (Sonnhammer et al., Nucl. Acids Res., 26:320-322, 1998)) consists of a series of multiple sequence alignments; one alignment for each protein family. Each multiple sequence alignment is converted into a probability model called a Hidden Markov Model, or HMM, that represents the position-specific variation among the sequences that make up the multiple sequence alignment (see, e.g., Durbin et al., *Biological sequence analysis: probabilistic models of proteins and nucleic acids*, Cambridge University Press, 1998 for the theory of HMMs). The program HMMER version 1.8 (Sean Eddy, Washington University in Saint Louis) was used to compare the predicted protein sequence for each Query sequence (SEQ ID NO:Y in Table 1) to each of the HMMs derived from PFAM version 2.1. A HMM derived from PFAM version 2.1 was said to be a significant match to a polypeptide of the invention if the score returned by HMMER 1.8 was greater than 0.8 times the HMMER 1.8 score obtained with the most distantly related known member of that protein family. The description of the PFAM family which shares a significant match with a polypeptide of the invention is listed in column 5 of Table 2, and the database accession number of the PFAM hit is provided in column 6. Column 7 provides the score returned by HMMER version 1.8 for the alignment. Columns 8 and 9 delineate the polynucleotides of SEQ ID NO:X which encode the polypeptide sequence which show a significant match to a PFAM protein family.

[0005]   As mentioned, columns 8 and 9 in Table 2, "NT From" and "NT To", delineate the polynucleotides of "SEQ ID NO:X" that encode a polypeptide having a significant match to the PFAM/NR database as disclosed in the fifth column. In one embodiment, the invention provides a protein comprising, or alternatively consisting of, a polypeptide encoded by the polynucleotides of SEQ ID NO:X delineated in columns 8 and 9 of Table 2. Also provided are polynucleotides encoding such proteins, and the complementary strand thereto.

[0006]   The nucleotide sequence SEQ ID NO:X and the translated SEQ ID NO:Y are sufficiently accurate and otherwise suitable for a variety of uses well known in the art and described further below. For instance, the nucleotide sequences of SEQ ID NO:X are

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useful for designing nucleic acid hybridization probes that will detect nucleic acid sequences contained in SEQ ID NO:X or the cDNA contained in Clone ID NO:Z. These probes will also hybridize to nucleic acid molecules in biological samples, thereby enabling immediate applications in chromosome mapping, linkage analysis, tissue identification and/or typing, and a variety of forensic and diagnostic methods of the invention. Similarly, polypeptides identified from SEQ ID NO:Y may be used to generate antibodies which bind specifically to these polypeptides, or fragments thereof, and/or to the polypeptides encoded by the cDNA clones identified in, for example, Table 1.

[0007]   Nevertheless, DNA sequences generated by sequencing reactions can contain sequencing errors. The errors exist as misidentified nucleotides, or as insertions or deletions of nucleotides in the generated DNA sequence. The erroneously inserted or deleted nucleotides cause frame shifts in the reading frames of the predicted amino acid sequence. In these cases, the predicted amino acid sequence diverges from the actual amino acid sequence, even though the generated DNA sequence may be greater than 99.9% identical to the actual DNA sequence (for example, one base insertion or deletion in an open reading frame of over 1000 bases).

[0008]   Accordingly, for those applications requiring precision in the nucleotide sequence or the amino acid sequence, the present invention provides not only the generated nucleotide sequence identified as SEQ ID NO:X, and a predicted translated amino acid sequence identified as SEQ ID NO:Y, but also a sample of plasmid DNA containing cDNA Clone ID NO:Z (deposited with the ATCC on March 24, 2000, and receiving ATCC designation numbers PTA-1559). The nucleotide sequence of each deposited clone can readily be determined by sequencing the deposited clone in accordance with known methods. Further, techniques known in the art can be used to verify the nucleotide sequences of SEQ ID NO:X.

[0009]   The predicted amino acid sequence can then be verified from such deposits. Moreover, the amino acid sequence of the protein encoded by a particular clone can also be directly determined by peptide sequencing or by expressing the protein in a suitable host cell containing the deposited human cDNA, collecting the protein, and determining its sequence.

RACE Protocol For Recovery of Full-Length Genes

[0010]   Partial cDNA clones can be made full-length by utilizing the rapid amplification of cDNA ends (RACE) procedure described in Frohman, M.A., et al., Proc. Nat'l. Acad. Sci. USA, 85:8998-9002 (1988). A cDNA clone missing either the 5' or 3' end can be reconstructed to include the absent base pairs extending to the translational start or stop codon, respectively. In some cases, cDNAs are missing the start codon of translation, therefor. The following briefly describes a modification of this original 5' RACE procedure. Poly A+ or total RNA is reverse transcribed with Superscript II (Gibco/BRL) and an antisense or complementary primer specific to the cDNA sequence. The primer is removed from the reaction with a Microcon Concentrator (Amicon). The first-strand cDNA is then tailed with dATP and terminal deoxynucleotide transferase (Gibco/BRL). Thus, an anchor sequence is produced which is needed for PCR amplification. The second strand is synthesized from the dA-tail in PCR buffer, Taq DNA polymerase (Perkin-Elmer Cetus), an oligo-dT primer containing three adjacent restriction sites (XhoI, SalI and ClaI) at the 5' end and a primer containing just these restriction sites. This double-stranded cDNA is PCR amplified for 40 cycles with the same primers as well as a nested cDNA-specific antisense primer. The PCR products are size-separated on an ethidium bromide-agarose gel and the region of gel containing cDNA products the predicted size of missing protein-coding DNA is removed. cDNA is purified from the - agarose with the Magic PCR Prep kit (Promega), restriction digested with XhoI or SalI, and ligated to a plasmid such as pBluescript SKII (Stratagene) at XhoI and EcoRV sites. This DNA is transformed into bacteria and the plasmid clones sequenced to identify the correct protein-coding inserts. Correct 5' ends are confirmed by comparing this sequence with the putatively identified homologue and overlap with the partial cDNA clone. Similar methods known in the art and/or commercial kits are used to amplify and recover 3' ends.

[0011]   Several quality-controlled kits are commercially available for purchase. Similar reagents and methods to those above are supplied in kit form from Gibco/BRL for both 5' and 3' RACE for recovery of full length genes. A second kit is available from Clontech which is a modification of a related technique, SLIC (single-stranded ligation to single-stranded cDNA), developed by Dumas et al., Nucleic Acids Res., 19:5227-32 (1991). The major differences in procedure are that the RNA is alkaline hydrolyzed after reverse transcription and RNA ligase is used to join a restriction site-containing anchor primer to

the first-strand cDNA. This obviates the necessity for the dA-tailing reaction which results in a polyT stretch that is difficult to sequence past.

[0012]   An alternative to generating 5' or 3' cDNA from RNA is to use cDNA library double-stranded DNA. An asymmetric PCR-amplified antisense cDNA strand is synthesized with an antisense cDNA-specific primer and a plasmid-anchored primer. These primers are removed and a symmetric PCR reaction is performed with a nested cDNA-specific antisense primer and the plasmid-anchored primer.

RNA Ligase Protocol For Generating The 5' or 3' End Sequences To Obtain Full Length Genes

[0013]   Once a gene of interest is identified, several methods are available for the identification of the 5' or 3' portions of the gene which may not be present in the original cDNA plasmid. These methods include, but are not limited to, filter probing, clone enrichment using specific probes and protocols similar and identical to 5' and 3' RACE. While the full length gene may be present in the library and can be identified by probing, a useful method for generating the 5' or 3' end is to use the existing sequence information from the original cDNA to generate the missing information. A method similar to 5' RACE is available for generating the missing 5' end of a desired full-length gene. (This method was published by Fromont-Racine et al., Nucleic Acids Res., 21(7):1683-1684 (1993)). Briefly, a specific RNA oligonucleotide is ligated to the 5' ends of a population of RNA presumably containing full-length gene RNA transcript and a primer set containing a primer specific to the ligated RNA oligonucleotide and a primer specific to a known sequence of the gene of interest, is used to PCR amplify the 5' portion of the desired full length gene which may then be sequenced and used to generate the full length gene. This method starts with total RNA isolated from the desired source, poly A RNA may be used but is not a prerequisite for this procedure. The RNA preparation may then be treated with phosphatase if necessary to eliminate 5' phosphate groups on degraded or damaged RNA which may interfere with the later RNA ligase step. The phosphatase if used is then inactivated and the RNA is treated with tobacco acid pyrophosphatase in order to remove the cap structure present at the 5' ends of messenger RNAs. This reaction leaves a 5' phosphate group at the 5' end of the cap cleaved RNA which can then be ligated to an RNA oligonucleotide using T4 RNA ligase. This modified RNA

preparation can then be used as a template for first strand cDNA synthesis using a gene specific oligonucleotide. The first strand synthesis reaction can then be used as a template for PCR amplification of the desired 5' end using a primer specific to the ligated RNA oligonucleotide and a primer specific to the known sequence of the gene of interest. The resultant product is then sequenced and analyzed to confirm that the 5' end sequence belongs to the relevant gene.

[0014]   The present invention also relates to vectors or plasmids which include such DNA sequences, as well as the use of the DNA sequences. The material deposited with the ATCC (deposited with the ATCC on March 24, 2000, and receiving ATCC designation numbers PTA-1559) is a mixture of cDNA clones derived from a variety of human tissue and cloned in either a plasmid vector or a phage vector, as described, for example, in Table 1. These deposits are referred to as "the deposits" herein. The deposited material includes cDNA clones corresponding to SEQ ID NO:X described, for example, in Table 1 (Clone ID NO:Z). A clone which is isolatable from the ATCC Deposits by use of a sequence listed as SEQ ID NO:X, may include the entire coding region of a human gene or in other cases such clone may include a substantial portion of the coding region of a human gene. Furthermore, although the sequence listing may in some instances list only a portion of the DNA sequence in a clone included in the ATCC Deposits, it is well within the ability of one skilled in the art to sequence the DNA included in a clone contained in the ATCC Deposits by use of a sequence (or portion thereof) described in, for example Tables 1 or 2 by procedures hereinafter further described, and others apparent to those skilled in the art.

[0015]   Also provided in Table 1 is the name of the vector which contains the cDNA clone. Each vector is routinely used in the art. The following additional information is provided for convenience.

[0016]   Vectors Lambda Zap (U.S. Patent Nos. 5,128,256 and 5,286,636), Uni-Zap XR (U.S. Patent Nos. 5,128, 256 and 5,286,636), Zap Express (U.S. Patent Nos. 5,128,256 and 5,286,636), pBluescript (pBS) (Short, J. M. et al., *Nucleic Acids Res. 16:*7583-7600 (1988); Alting-Mees, M. A. and Short, J. M., *Nucleic Acids Res. 17:*9494 (1989)) and pBK (Alting-Mees, M. A. et al., *Strategies 5:*58-61 (1992)) are commercially available from Stratagene Cloning Systems, Inc., 11011 N. Torrey Pines Road, La Jolla, CA, 92037. pBS contains an ampicillin resistance gene and pBK contains a neomycin resistance gene.

Phagemid pBS may be excised from the Lambda Zap and Uni-Zap XR vectors, and phagemid pBK may be excised from the Zap Express vector. Both phagemids may be transformed into *E. coli* strain XL-1 Blue, also available from Stratagene.

[0017]　　Vectors pSport1, pCMVSport 1.0, pCMVSport 2.0 and pCMVSport 3.0, were obtained from Life Technologies, Inc., P. O. Box 6009, Gaithersburg, MD 20897. All Sport vectors contain an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, also available from Life Technologies. See, for instance, Gruber, C. E., et al., *Focus 15:*59- (1993). Vector lafmid BA (Bento Soares, Columbia University, New York, NY) contains an ampicillin resistance gene and can be transformed into *E. coli* strain XL-1 Blue. Vector pCR®2.1, which is available from Invitrogen, 1600 Faraday Avenue, Carlsbad, CA 92008, contains an ampicillin resistance gene and may be transformed into *E. coli* strain DH10B, available from Life Technologies. See, for instance, Clark, J. M., *Nuc. Acids Res. 16:*9677-9686 (1988) and Mead, D. *et al., Bio/Technology 9:* (1991).

[0018]　　The present invention also relates to the genes corresponding to SEQ ID NO:X, SEQ ID NO:Y, and/or the deposited clone (Clone ID NO:Z). The corresponding gene can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include preparing probes or primers from the disclosed sequence and identifying or amplifying the corresponding gene from appropriate sources of genomic material.

[0019]　　Also provided in the present invention are allelic variants, orthologs, and/or species homologs. Procedures known in the art can be used to obtain full-length genes, allelic variants, splice variants, full-length coding portions, orthologs, and/or species homologs of genes corresponding to SEQ ID NO:X or the complement thereof, polypeptides encoded by genes corresponding to SEQ ID NO:X or the complement thereof, and/or the cDNA contained in Clone ID NO:Z, using information from the sequences disclosed herein or the clones deposited with the ATCC. For example, allelic variants and/or species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source for allelic variants and/or the desired homologue.

[0020]　　The polypeptides of the invention can be prepared in any suitable manner. Such polypeptides include isolated naturally occurring polypeptides, recombinantly produced

polypeptides, synthetically produced polypeptides, or polypeptides produced by a combination of these methods. Means for preparing such polypeptides are well understood in the art.

[0021]   The polypeptides may be in the form of the secreted protein, including the mature form, or may be a part of a larger protein, such as a fusion protein (see below). It is often advantageous to include an additional amino acid sequence which contains secretory or leader sequences, pro-sequences, sequences which aid in purification, such as multiple histidine residues, or an additional sequence for stability during recombinant production.

[0022]   The polypeptides of the present invention are preferably provided in an isolated form, and preferably are substantially purified. A recombinantly produced version of a polypeptide, including the secreted polypeptide, can be substantially purified using techniques described herein or otherwise known in the art, such as, for example, by the one-step method described in Smith and Johnson, Gene 67:31-40 (1988). Polypeptides of the invention also can be purified from natural, synthetic or recombinant sources using techniques described herein or otherwise known in the art, such as, for example, antibodies of the invention raised against the polypeptides of the present invention in methods which are well known in the art.

[0023]   The present invention provides a polynucleotide comprising, or alternatively consisting of, the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA sequence contained in Clone ID NO:Z. The present invention also provides a polypeptide comprising, or alternatively, consisting of, the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X or a complement thereof, and/or a polypeptide encoded by the cDNA contained in Clone ID NO:Z. Polynucleotides encoding a polypeptide comprising, or alternatively consisting of the polypeptide sequence of SEQ ID NO:Y, a polypeptide encoded by SEQ ID NO:X, and/or a polypeptide encoded by the cDNA contained in Clone ID NO:Z are also encompassed by the invention. The present invention further encompasses a polynucleotide comprising, or alternatively consisting of, the complement of the nucleic acid sequence of SEQ ID NO:X, a nucleic acid sequence encoding a polypeptide encoded by the complement of the nucleic acid sequence of SEQ ID NO:X, and/or the cDNA contained in Clone ID NO:Z.

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[0024]   Many polynucleotide sequences, such as EST sequences, are publicly available and accessible through sequence databases and may have been publicly available prior to conception of the present invention. Preferably, such related polynucleotides are specifically excluded from the scope of the present invention. Accordingly, for each contig sequence (SEQ ID NO:X) listed in the fourth column of Table 1, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a is any integer between 1 and the final nucleotide minus 15 of SEQ ID NO:X, b is an integer of 15 to the final nucleotide of SEQ ID NO:X, where both a and b correspond to the positions of nucleotide residues shown in SEQ ID NO:X, and where b is greater than or equal to a + 14. More specifically, preferably excluded are one or more polynucleotides comprising a nucleotide sequence described by the general formula of a-b, where a and b are integers as defined in columns 4 and 5, respectively, of Table 3. In specific embodiments, the polynucleotides of the invention do not consist of at least one, two, three, four, five, ten, or more of the specific polynucleotide sequences referenced by the Genbank Accession No. as disclosed in column 6 of Table 3. In further embodiments, preferably excluded from the invention are the specific polynucleotide sequence(s) contained in the clones corresponding to at least one, two, three, four, five, ten, or more of the available material having the accession numbers identified in the sixth column of this Table. In no way is this listing meant to encompass all of the sequences which may be excluded by the general formula, it is just a representative example. All references available through these accessions are hereby incorporated by reference in their entirety.

TABLE 3

Clone ID NO: Z	SEQ ID NO: X	Contig ID:	EST Disclaimer Range of a	Range of b	Accession #'s
HCFNH88	11	413036	1 - 468	15 - 482	AA299504, BF508870, T12637, AF199509, and AK026089.
HODDW37	12	456287	1 - 609	15 - 623	T83532, BF107206, and R09982.
HPMFI38	13	463734	1 - 542	15 - 556	H12876, N58678, AL514125, AB026116, and AC012153.
HLTDP38	14	465120	1 - 980	15 - 994	BE907584, AW328071, AW341406, AW518651, BF000229, AI985460, AI679820, AI679244, BE349182, AW026569, AI913105, AW167521, AI433441, AI824296, AI652506, BE669569, BF224375, AV740400, BE222251, BE551363, AI681756, AW241259, AA352068, AV736248, AV744048, AV741074, AI866013, AI500135, AV740719, BE767739, BF436765, AA363430, AW168483, AW328070, AL119025, BF382482, AI696550, BE541237, AV714931, BE538259, BB867712, R08202, AW168479, BF794062, AA330772, AA078255, AL046746, BF805349, F27015, AA569065, AI061313, BE676915, AA878352, AV719443, AI921188, AI499503, AL157529, AA626829, AL119259, AA281928, AA745362, R79496, AL040462, BG164166, AI560070, BF741627, H21488, AV763469, AA551798, AV727584, N73187, AA878140, AA229444, BE674952, AA167744, BE139267, AA570344, BF844349, AW103383, H12383, BE145254, H15032, BF767878, BF773092, AW970020, AA669709, AU118852, BG106485, BF834522, AI719656, AK024825, AK000254, AC004552, AL034420, AL035587, AP000170, AP000055, AF019413, AL049540, AP001720, AC006121, AP000502, AC010326, AC011482, D89870, AF037222, L47234, AP000124, AC020916, AC002073, AC002538, AC009275, AP000330, AJ252080, AL158141, AL121825, U95742, AC018738, AC005913, AL159168, AL021918, AC005586, AC002091, AC005036, AJ010770, AC007216, AC022148, AL353748, AC004152, AC007917, AL138717, AC011465, AP001725, AC006530, AL033526, AP000509, AL009181, AC083871, AL022578, AC006539, AC004972, AL445985, AC005366, AL158218, AC007283, AC004212, AL022311, AL031668, U63721, U29895, AC005081, AC006449, AL022312, AC008897, Z54336, AC006947, AC002997, AC005039, AC004638, AC000070, AC008012, AL049753, AL356020, AL031665, AL022326, AL133246, AF027390, AC005828, AL132653, AL133445, AK026841, AC006433, AL096703, AC004841, AC022392, AB023049, AB000931, AL121989, AL121989, AC009470, AC005052, AB003151, AL158040, AC015853, AC007225, AC012351, AC002115, AC002429, AL122015, Z93016, AL136300, AB014077, AL031311, AP001759, AC010458, AF220542, AC020955,

					AL033376, AL022165, AC011475, AL021877, AC008274, AC011480, AL109825, AL136135, AC005808, AL157838, AC004929, AL133243, AC004254, AC004209, AL109925, AF187725, AC009756, AL157359, AC008745, AC008033, AP001724, AC008753, AC005619, AC005484, AC005224, AC005544, AC011479, AL137139, AC003665, AL096791, AL020996, AC005911, AC005019, AC020910, AC008925, AC006483, Z84572, AC018448, AC010363, AP000279, AC006139, AC004141, AF245226, U62317, AC006511, AL049781, AC008543, AC011811, AJ239027, AF001549, AL138820, AL133448, AF190115, AP001711, AP001753, AC015846, AP001522, and AP001522.
HMHBT30	15	465711	1 - 417	15 - 431	BE868959, AV752876, BF594683, and R29204.
HFCBA57	16	466000	1 - 616	15 - 630	R56760, AW966299, AA339406, AI692199, R13164, AF150231, and AL121968.
HSRAL33	17	488966	1 - 956	15 - 970	BF980228, AV761652, AI769998, BF248482, BF570491, AA424644, AW268853, BR979946, BE877187, AW606938, AU130113, BF381651, AI985014, AA773189, BF696604, AA402448, AI214237, N79639, AW195871, AW197891, AA356925, AA293861, AW197782, AW195894, BE895108, BF572423, N54986, AA555193, AK022835, AF058718, AC004492, and X74635.
HSSMQ84	18	502907	1 - 401	15 - 415	AA296377, and AA378471.
HUKAB82	19	503441	1 - 446	15 - 460	R34441, BG256475, AW957006, AA300168, BE886285, AK027199, AC002394, and AC004381.
HDPPP46	20	506828	1 - 315	15 - 329	AW402168, BF726407, BE797379, H18753, BE78216, T77980, and BF756401.
HMTME11	21	506893	1 - 528	15 - 542	AW953715, AV755865, BF037206, BF978284, AA307934, BE739069, AA873152, F22832, AI095535, AA636042, BE252194, AI373026, AI311846, AI341706, BF675218, F32985, AW262015, AA947394, F32768, AV735940, AA654669, BE739920, AI581721, F27155, AV712832, AA551724, AV685728, AV736497, AI351541, D11719, AW778836, T55216, T54839, AA483200, AI300770, AV712712, N87448, BF210823, F36606, BR434132, BF246076, BF830933, BF830813, AA367358, BE927682, AA095761, AI271368, F31064, AI432581, AA169517, F30843, BE827338, AA872144, AK024594, AF147354, AL121900, AC007739, AL035689, and Z55938.
HBMUK46	22	507310	1 - 417	15 - 431	R53427, and AC005495.
HETDT70	23	509728	1 - 585	15 - 599	AA156832, BE893951, AW957032, AV693732, T96213, AA299371, AA321353, AI810397, AU076717, E16580, AF035268, AF035269, and U37591.
HPWBL19	24	521848	1 - 576	15 - 590	N37051, N22691, AW977672, BF060705, AI740565, BF216881, BE218331, H82723, AW027246, AI354919, AA283799, AA658062, AA749441, N78633, BE467194, BE856126, BE798857, AW269276, AA810447, AA855098, N35468, BF062174, AI694134, AI985299, AI536933, AA281155, AW594363, AA603857, AA761068, AA826929, AI937825, AW977673, AW014079, N24534, BF332207, BG036203, BF515448, AF035397, AF003627, AC005189, and AF130357.

HMKAD85	25	523186	1 - 410	15 - 424	AI589211, AW025408, AI625632, C15297, AA704635, AW028123, AI377558, and AA442923.
HE9NE12	26	524559	1 - 628	15 - 642	BE785096, BE179433, BE787964, BE784506, AW500409, BF085600, AU120753, BE179640, AW178302, AA334799, AL045511, BF571753, BF726397, U85056, and AK001145.
HE2AX73	27	525950	1 - 305	15 - 319	AW119011, AF009204, AB000275, AF119817, and AF119818.
HHGBV89	28	527491	1 - 362	15 - 376	AC016138.
HTTDC06	29	529791	1 - 468	15 - 482	AW249294, H46549, BF037340, and AB037814.
HFXKR35	30	532045	1 - 972	15 - 986	
HHSDL85	31	534414	1 - 657	15 - 671	R12427, and AB049848.
HTECA32	32	535036	1 - 462	15 - 476	
HTEHL79	33	535040	1 - 638	15 - 652	BG163316, AA326490, BF511719, AA234356, AW960948, BF911382, AA323651, AI290214, AC005839, X91879, and AC005920.
HPJBL54	34	536712	1 - 808	15 - 822	BE563266, BG112258, BF797934, BE272440, BF984016, BF326821, BF306396, BG113049, AL517732, BE315014, BF027560, BG257944, BE727070, R60599, BE563463, AA070383, BE206259, R20690, Z44632, AL079371, R21349, BE895144, BE926608, AA351700, AA218584, BE892486, AA973891, BE546412, BF038283, AA102133, AL530121, AA248752, AL525034, AL522857, BF927819, BF927818, and BF983582.
HSDDD20	35	538217	1 - 1028	15 - 1042	
HCUCG74	36	550208	1 - 861	15 - 875	BE781101, BE540200, AI972511, BE300952, AA464837, BG150212, AI681901, AW172458, AA099207, AW205564, AW408650, AW205714, AA450308, AA636047, AI656442, BF437116, BB466112, AW575656, AW962721, AW206882, AA099221, AI620473, AA369585, AW469939, AW136836, BE547752, AI638262, BF059133, AA236642, BE551958, AW086133, AI917742, AI623315, and AC005391.
HFIXK94	37	550992	1 - 399	15 - 413	BF366265, AF045448, AL163280, and AF064860.
HPJAV46	38	551777	1 - 403	15 - 417	BE274311, BF219801, BE531261, AW411242, BE531040, BE392456, AW377569, BF694069, AW377571, AV377571, AV763995, BE263530, AW377537, AW377568, AV761917, AW377624, BF977274, AW852126, AV703358, AW852062, BB872120, BE164388, BE735905, AV711299, AV729227, BE780766, BB874878, AW393740, BF338865, BB615056, BE797162, BF691137, BF678996, BE901483, AA609994, BF311171, BE256747, BF793607, BE253983, AV714212, AL526398, AW852256, BF183197, BE736928, AV725124, BF700891, BG260744, BE743248, BF213101, BE250013, AW935221, BE299748, BE263146, BE300151, AW864172, AW410172, BF214422, BG171603, AW377567, BE873419, BF680148, BF312111, BE899308, AV713872, BG168000, BE741391, BF308822, BF205067, BF310727, BF203650, BF692699, AV708802, BG036583, BG248799, BE207590, BE207583, AI547302, BF304324, BF105254, BE272352, BE019519, BE732414, BB622069, AV751860, BF674867,

HTTDL61	39	558312	1 - 315	15 - 329	BE300041, BE879936, BE544326, BF685977, BE314894, BE019478, AW852264, BB300351, BF237753, BE256192, BG033184, BF311434, BF686322, BE882480, BG121826, BE293606, AA399320, BF932221, BE395509, BE695712, BG105139, D30938, AV661326, BF686806, BE872697, BE273055, BG249490, BE270150, AV734330, BF683092, AV705448, BF692504, BF206919, AV703060, BE798386, BE882561, BE616007, BG026452, BE298381, BE262277, AW608096, BE070298, BE313176, BF979365, BE744054, BE812386, AW837967, AW732355, AW410757, BF106230, BE738991, BE812361, BF314692, BF932227, BF671336, BE812254, BF184921, BE261507, BF823639, AV711178, BE070300, BG167463, AV710849, BE931905, AV723237, BE812332, AV743501, AW956187, BE259759, BE784936, BF308955, BE900593, AW838045, AW838038, AW608103, AW608101, AW608107, AW608119, R80375, BB812322, BE019582, BE512851, AW608097, BE825686, AA430284, BE812328, AW852120, AW852072, BF203314, BE825718, AV706890, BE899494, AA007300, BF664876, AW837962, BF700537, BE763172, BB825692, BE694306, N28917, AW023727, BE936400, R71432, BE929628, AV702221, AI750601, AW753015, BF303816, AV729377, BE378338, AW837952, AW732592, AL533538, AW837965, BE311411, AA121281, AW837950, BF667711, AW372196, BF184919, AW372220, BF979547, T54945, AW580626, BE304857, AW391852, BF698766, BF665347, AV712080, AW952981, BF679450, AW373976, AW377490, BF671053, AA206647, BF700635, AA385623, AI908145, H85301, AV702882, BE263230, T82198, BF094304, BE394536, AA314228, BF383142, H25321, H25320, AW837966, BF203566, BF106427, BG119810, AA379542, BE612803, AW583199, BE732461, BF105082, BF970440, AV736809, AA332760, BF304301, BF316198, AL520449, BE091914, BE091982, AL039105, AX014088, D14696, and U34259.
HFPBN94	40	561612	1 - 1312	15 - 1326	AW241373, AI566355, R46114, H17077, AA939227, AW474575, AD242576, AL513923, T16523, R45283, F10525, AL133383, AP001726, AC087089, AC005670, AC005803, AP000696, AC004808, and AC002425. AW195253, AW022456, AW022571, AV703012, AI652664, AV707458, AV728546, AW087595, AV703599, AW959521, AV702790, AI888208, AV705047, AW952410, AV705416, BE273626, AV705348, AW953797, AV656013, AV709247, AV651920, AV725633, AV702372, AV702266, AV707652, AV696791, AV709407, AV703494, AW959543, AW955723, AV658863, AW021930, BE966968, AW022168, AV728455, AV709587, AW962444, AW950443, AV726559, AV726088, AW020406, AW952403, AW952183, AW959806, AV656903, AW955613, AV661704, AW952751, AV696106, AV697196, AW956075, AV645936, AI473536, AV658084, AV692600, AV650315, AV659389, AW951263, AV697880, AV727613, AV726010, AV689111, AV728157, AV655280, AV660258, AV647789, AV708109, AW956474, AV659294, AV727787,

HYBBG69	41	562024	1 - 1205	15 - 1219	AV703146, AV692345, AV686060, AV725745, AW951239, AV686064, AV728148, AV660608, AV659322, AV726156, AV654908, AI473934, AV726590, AV698545, AV656478, AV684962, AV708893, AV709314, AV653353, AV708381, AV654070, AV660728, AV659536, AV691080, AW951281, Y08991, AF130055, Y11505, AX047063, AF217994, A91160, AL137563, S68736, AK024588, X66871, AF151036, AK027109, AK025113, U80919, AF080068, U75304, and AL162083.
					BE220363, BF892160, BE672744, F23227, AI345156, AI334884, AI340644, AI335399, AI336654, BE138684, AV736474, AI334930, AI309443, AI345790, AI345562, AI307520, AI345026, AI307454, AI340664, AI310592, AI307542, AI345817, AI344808, AI345739, AI345674, AI312143, AI349637, AI312168, AI334920, AW071276, AI344779, AI312258, AI310927, AI307515, AI307578, AI336488, AI349955, AI349738, AW020095, AW075093, AI334941, BG111837, AI312432, AW071377, AI311159, AI312357, AI311435, AI312237, AI312408, AV749238, AI349601, AI307549, AI349213, AI335125, AI349937, AA861958, AI254134, AW148354, AI310925, AI340659, AI340604, BF764538, AI349805, N67350, AI590048, AI307513, AI348981, AI344849, AV744830, AI343030, AI334889, AI273856, AI811192, AI312988, AW071380, AI336565, AI312325, AW071395, AV738918, AI288076, AI312963, AI758538, AA814582, AV736402, AI418436, AA826186, AI313352, AI310920, AI307503, AI311892, AA837290, AV744972, AI312959, AI307708, AW075084, AI336585, AI334913, AW327383, AI349266, AI334452, AI349787, AI310951, AI344938, AI241678, AI348969, AI340634, AI312146, AI312339, AI309431, AI340537, AI312165, AI345258, AI349628, AI349288, AI345310, AI282355, AI344260, AI340610, AI307459, AI343140, AI349971, AD89436, AV737782, AI345639, AI307507, AI348879, AI340642, AI340639, BG121774, AI334441, AI311604, AI343995, AI349220, AI340613, AI313325, AB07456, AI334943, AI311440, AI349960, AI312340, AI310930, AI309418, AI312333, AB12398, AI064830, AW071412, AI334908, AI312148, AI312252, AI049850, AI310945, AI34446, AI345149, AI340662, AI349000, AI312431, AI313350, AI312266, AA417129, AI312414, AI349020, AI312273, AI345251, AI377163, AI310941, AI251257, BG109553, AI470477, AI624976, AV760002, AC007565, Y09972, AL049300, AF175903, AF242859, AL050024, AL157464, AK025860, AF088991, I77092, AL117394, AK000212, AF132205, AF175983, AL080163, L31396, AL080057, L31397, A70386, S56212, AK026870, U77351, AF213396, AL110228, E13052, Y07915, AF016394, AJ012288, AF130066, AB030200, L13297, AL050280, M69222, E06788, E06790, U49908, E06789, S71381, AL137276, AK026633, AF082526, AL110197, AK000083, AL137281, I03321, AF113699, AF119859, U53505, AF155827, AJ238617, AL117445, AK027173, AF090900, AB032264, AF246126, AK025889, X57961, L24896, X63410, AF038440, AF113690, X73361, AF151076, AB048994, AF082324, AF287051, AK024538, AL110171, AF118094, AI390154,

HDPOI05	42	562077	1 - 1140	15 - 1154	B07941, and AK026522.
HMAGF64	43	562775	1 - 1015	15 - 1029	BE903137, BE732613, AI269493, and AK024472.
HACCO38	44	563589	1 - 686	15 - 700	AA307960, BF691085, AA366364, AA366829, BF030298, AL046574, AA281830, AW402257, AL133061, AB023173, AX011607, and AF236061.
HRAAM31	45	567314	1 - 1232	15 - 1246	AC006230.
HWDAAO3	46	571474	1 - 799	15 - 813	BF064019, BF593236, and BF997680.
HTHCV60	47	572607	1 - 471	15 - 485	BF837516.
HTLEV17	48	573110	1 - 415	15 - 429	R85015, H30718, BG251214, T09058, Z42050, AL042216, BF339690, T08045, AL042446, Z41928, H26862, BE765911, H50921, BE714890, AL042272, AI940226, and AB002373.
HCFAB91	49	573179	1 - 425	15 - 439	AI570416, AW510367, T82334, and AU142902.
HMWEE18	50	573751	1 - 687	15 - 701	BF105895, AA062924, BF843990, R75831, BF086558, T94511, BE931013, AI808807, AW020372, BE671627, AI379326, and AW051986.
HTLAI85	51	574924	1 - 340	15 - 354	AL079482, AU125601, BE742829, AL530239, AW371246, AW367415, H49732, BF951592, BF772285, and D86966.
HHPGQ38	52	575287	1 - 648	15 - 662	BG165743, BF570243, BG166577, AA757672, R89840, N62892, N77803, AA873573, AW243945, BF769085, AI915081, AA297789, AI620992, AA503018, AA297006, AA598627, AA714073, AA862029, AI904944, AI185394, AA599532, BF766147, AA583386, AA102737, AW805539, AI816058, AI349130, BF791744, AW833901, BF884277, AI271762, AA780933, F08866, BF891621, AA809186, AA604147, AA302661, BF997771, AW961582, AA483606, AI049630, AA598605, AW880029, AA452325, AW821722, AI114534, AW821724, AI061303, AW264901, BE077105, H80989, AA570740, AW833047, BF447405, AI355246, AA568204, AA482792, AI310670, AA630854, AI570237, AI889579, BF883232, AA228778, N54538, AA642264, AW780190, AA486820, AA405549, AA635413, AL138299, T93109, BE787136, AW970064, AA326904, BF884894, BF858763, AA496268, R67701, BE149998, AI193417, AA482928, AV754399, AW821718, AA664126, BF922719, F35684, AA224807, AA486277, AA838091, AA847064, T83057, AA515939, AA410788, W96277, AW836439, R70883, AU147162, N91711, BF821072, BF857849, BF807722, AA578069, BG250286, AA501942, AV718585, AA365586, AA577824, AI310787, BG056362, AA642787, BF769229, AA020873, AW974363, AV722143, AV708029, AU120416, N64587, R34561, H65213, AA937809, AI306717, BF764105, AI054090, BE379437, BG113821, AA356376, BG150803, AW265688, AA378207, AA584207, AA630122, AI046061, AW301736, BF902460, BF815843, AI038358, AA229422, BF901391, BF345946, AW873207, AA339923, AV757738, BF918946, AA493797, T15890,

AV754716, BF920612, AA745351, AA669560, AA601237, AI284045, BG057207,
AI207738, BE501670, BF941269, R70884, AF075374, AD243793, AA766414, AI978782,
AW969743, AL524675, AW273360, AC004099, I34294, AC005516, AC008277,
AC009305, AC027644, AL139120, Z93930, AP000213, AP00135, AL031846,
AC026776, AP000031, U22028, A47886, AF024533, AC005088, AL080243, AC004973,
AL390997, AL049643, AL034549, AL139318, AL136296, AL023575, AC008278,
AL121825, AF196969, M26434, U52111, AR060394, X64467, L78833, AP001712,
AC005165, AL022165, AK022034, AL137330, AC007200, AL049733, Z94802,
AC000353, AF111163, AC005559, AC007565, AF165141, AP000252, AC008848,
AC009362, AC007269, AC005841, AP000212, AP000134, AP000030, AL031595,
AL109965, AL031282, AL049699, AC006251, AC004824, AC010000, AC006101,
AL109953, AC007358, AL138997, AC007277, AC011742, AC009244, AC003664,
AF027390, AJ400877, Y11107, AC022407, AC008050, AC004383, Z68284, AL359846,
AL121757, AL139100, AP000501, AP000065, AC004799, AF219991, AC020917,
AC019210, AC008762, AF002223, AL078463, AL391119, AC078889, AF196972,
AC006511, AC005053, AL031311, AL109824, AL109743, AC005527, AP000305,
AL135959, AC025275, AC002303, AC006536, AL049828, AP000350, AC020906,
AL135879, AL121790, U02051, AP000313, AL391259, AL080106, AL049872,
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Z95116, AC006329, U78027, AC005740, AP001711, AC007030, AC004089, AL024498,
and AL121581.

HNGER82	53	576739	1 - 626	15 - 640	R16017, AA570454, R02443, T77361, R16118, AW973414, R06273, and T77056.
HBILU13	54	578925	1 - 539	15 - 553	AL353713.
HCFDC55	55	581501	1 - 474	15 - 488	AI683115, AW614790, AI949946, BE858872, BF939700, AI469900, AW172942, BE327191, AW451782, AI337875, AW239182, AW295271, AI363093, BE440149, AI471556, AI767259, AI683261, AW028130, BE349166, AI281604, AW027661, AI421188, AW473576, AW243195, AV650898, AI872021, AI376876, AI089774, AA749033, AA703436, N68539, AW235809, BF878349, AI750006, BF114982, AW976177, AV649714, AA526238, AA974484, AA455090, W37813, F09284, AW193169, AI493809, AI700797, Z41088, T92246, AW268135, AV649952, T17498, F02060, AI916032, F04236, AV649786, AW976261, AL162084, AK000272, AL137741, and AL157494.
HFKCT25	56	586810	1 - 585	15 - 599	AA341121, and AA341124.
HAPOW05	57	587520	1 - 415	15 - 429	AA827188, BF511504, AW969122, AA504834, AW445204, R01230, BE909102, BG008470, BF951696, T93623, BF529606, AK026482, AB052145, and AF178935.
HCUFP05	58	589293	1 - 903	15 - 917	AL037337, BE250656, AL037347, BF690384, BF689438, AA738329, AW263173, AI401287, BF973585, BE646211, AI817738, AI361425, BF684855, AL500309, AA514406, AA781022, AI206043, AI039311, AW513395, AW510418, AA450076, AI582168, AI497642, AW027882, AI457954, AI734913, AI073893, AI493254, AW055011, AI688170, AW316771, AI344050, AW072287, AI304418, BP221940, AA535731, AI688548, AA399110, AA865470, BG056115, AI150686, N39612, AA843778, AI697688, AA503531, AW576502, AI554678, AI207587, AI381981, AI288532, AI342539, AI818835, AA782161, AI819112, AA844177, AA450132, AI675493, AI925355, AI302554, AA649895, AA826525, BF033350, AI279431, AA953657, AW044509, W60405, W81382, AW292965, BG055706, AI042277, AA758738, AI269455, AA594887, BE535387, AI419994, AA916356, AI694804, AI364286, AI351712, AA613382, AI990492, AA609491, AW406097, AA047617, AI864558, AA918532, AA282175, AA810568, AA633214, BE703250, AA626649, BE250680, AI559917, AW014338, AI918306, BF058804, AI351433, W46766, N93704, AD266616, AA366022, BE298972, BE675634, AA037691, AI382136, C00696, W35374, AA134788, T98249, BG106495, W21588, AI962666, BE273802, AA037690, BF206228, BF526713, AA531006, W23584, AW379851, BE541923, BE904747, BF530226, BF311708, BF683140, BE045182, AI630932, AI926182, BF312128, BE393551, AW118557, AW411235, BF205354, AA127565, BF128843, BE966499, AW411351, AV759970, AF043611, AF030291, AF001891, I48978, AR050959, AR068751, AF235093, Y11254, AF065135, A76335, I92592, S68736, A93016, AL110280, AF076633, AL389947, A91160, I89947, AR068753, AX030659, AF177401, I48979, I35495, AR072729, AC004942, AR072149, AK026744, AF184965, X83508, AR034821, AR037084, and S71381.

HB8CX53	59	597069	1 - 689	15 - 703	AU138655, AA081738, AW965288, T31616, H05397, T07153, AL035908, C14178, R18920, AA129192, AK002120, AL031117, and A80967.
HCENB31	60	597213	1 - 494	15 - 508	AW960962, Z43654, AA324303, BF955373, AW897155, AW897153, R76139, R80448, AX023742, AF074483, AJ012188, AF069755, AF099033, AF095784, AF056085, AX023740, AF058795, AJ011318, and AF074482.
H7TME55	61	597832	1 - 485	15 - 499	I33191, U22491, and E13005.
HDHMA49	62	600734	1 - 912	15 - 926	R35934, H29244, BE207202, R85125, R90888, H05353, AW966265, R14779, H51247, AA338672, R51725, AA488106, AI873131, AI500178, AI480182, F11386, BF530977, D29763, D64009, and D64010.
HBXBG68	63	610609	1 - 542	15 - 556	
HGBFC53	64	613240	1 - 459	15 - 473	BE549278, BE733028, BF684135, AL523005, BE799676, BF569653, BG025571, BE543724, AU122781, AU118901, BE546787, BE901627, BE619508, BG261003, BF125994, BE867036, BE514804, AU126661, T27149, AA453548, BE872645, BF982234, AA428039, BE732727, H06555, T08101, BF725406, AI372543, BF686296, BF812709, T74159, AA349657, AA137103, F12624, W84358, BG011753, BE271430, BE271832, BF848808, AA464305, T33225, AA210971, BF081773, AI372544, AI567829, AI040013, N30951, BE265922, BE892906, AB033603, AK022488, AK021721, AF210052, AK001318, AF193844, and AF071316.
HPMCK47	65	613734	1 - 1190	15 - 1204	BF996080, W79900, R93661, BF768396, AI015952, R62914, BF435276, C17045, H13468, R23858, AW469629, BF769805, R64187, R63192, BF768469, BF807312, R79604, R64194, R28497, AA583351, AI342016, AI061587, AA330660, AA917802, N29380, AI220948, R81425, AI200655, R25950, AI128381, R79605, R64098, AI220985, BF431082, BF994016, AA729671, AA974341, R62915, BF768468, R81630, R64104, AI094352, AA001841, AP001748, AP001629, AC078847, AC017004, AC016628, AC002416, Z83848, AC010677, AL359313, AL008629, AC006249, AC008554, AC009505, and AF090920.
HAPNX53	66	613777	1 - 466	15 - 480	AV713823, AA482321, AV716627, AV713209, and A90848.
HOFAE02	67	614169	1 - 511	15 - 525	BE910195, BE783656, BE906341, BG178384, BE048049, BE973606, BE074234, N23506, AA995358, AA293374, N42420, BF970013, N29163, BF743351, BE782150, BF971148, AI924167, AV754940, N31382, AI300946, BG105075, BE896959, AV747543, AV702313, AW510702, AA507156, W38924, BE785316, BE890490, AW188107, H45202, N42404, H40733, AI983025, W95089, AI583243, BE880216, AI301966, W57541, AI015619, T31783, AW006794, BF674585, N33735, AA063083, AW630926, AW168796, BF679757, AA157599, BE858813, BE547758, BF670105, AW051432, R74310, AV742727, BG054826, BF699289, T31262, BE881479, BE879146, T19230, BE693583, AII125994, AW071976, AI360252, AW149790, AW877810, BF727414, W79708, BE714145, AW583802, BE764972, N33907, R23867, T35747, AI912804, ZA2779, R22630, N42319,

	No.	Clone			Accession Numbers
HSLIQ83	68	614801	1 - 1099	15 - 1113	AI541287, BE122666, R39387, R28433, AA912616, AA846833, R33701, AW750247, AW297741, BF184398, AI090035, N28470, AI805679, AA702505, AI955820, BF196614, AA918990, AA769460, R67980, BF340421, AI128802, N94922, W95090, AA527383, F30122, AI418108, N33447, AA702099, AI308924, AI720299, H50365, BG109223, H42168, AA886635, AI025955, AI718979, AI857970, AW382456, AA948391, AI369901, AI056727, N24587, N76637, AI014666, AV707627, H70236, F37061, W04143, H50571, AI336552, AW014670, AW182324, AF092138, and AC006254.
HNTMD04	69	615231	1 - 613	15 - 627	BF340747, BG260080, BE547694, AI392767, AU157156, W23048, BF513059, AA701938, AI817436, AI659366, BF948227, AU121610, H05668, AI682404, BG008771, R06611, BG222812, F09099, R49577, AW204732, H11394, ZA1748, F02547, R06667, BF344354, R42148, BG026867, N53895, BE299243, A84110, AB028988, AK001996, AL137568, and AF057286.
HRABY48	70	616154	1 - 366	15 - 380	W96405, H75441, T71263, H53046, and AC004849.
HDDAAI7	71	616652	1 - 740	15 - 754	AL049709.
HTRAC41	72	618715	1 - 735	15 - 749	AA044695, AA431595, AA044905, AU154369, AA431463, AW937978, AW875792, AW875597, AI745662, AA829389, AW170807, BE350003, AW875719, AI204384, AW665904, AI673728, AB046816, and AK001672.
HOSCV06	73	619875	1 - 1053	15 - 1067	T69560, and T69626.
HMCHS27	74	620219	1 - 506	15 - 520	AA146976, AA058965, AA147155, AI090186, AA099683, AA137215, AA099684, AI873263, AW173233, AI127920, AW082370, AA136188, AA279168, T94367, AI610013, T94721, AA092889, AW104403, AI797647, and AL133104.
HEMFC09	75	625334	1 - 657	15 - 671	AW965472, ALA334472, AW631441, T82868, AW663438, AW005046, R94251, AA057050, H14927, BF693286, AA243549, BG251451, AV727485, H10895, BF836499, BE709741, N76939, AI061582, AV726610, AW994061, AW368027, BE779718, N56401, AV709174, AV728038, R60629, T83167, AA465291, BG236037, BF672374, AA249224, AA370905, BF360602, BB832703, AW869410, N52683, and AB029008.
HNTRJ16	76	625432	1 - 852	15 - 866	BE877098, AW812330, BG035638, AU119507, D82299, BE771064, BE771065, AW888543, BF365190, BE006824, BE006769, BF514843, AB046813, AK021844, and AL096715.
HKAEJ09	77	625517	1 - 559	15 - 573	BF570656, BE969659, H05017, BF701826, T78233, T87257, AV757847, AA385525, AL038060, BB868803, BE568456, AK001241, and AC008179.
HKMMS65	78	625566	1 - 431	15 - 445	BF726594, BE779521, AI300952, AI352014, and AF085877.
HNHGB09	79	625622	1 - 504	15 - 518	AW381509, AW373459, AW373457, BE894289, BG032374, BF355684, AA085609, BE543790, AW381236, AL529067, BE736532, AA564706, AW673127, R17632, BG250040, BG177016, BE867041, BE797933, BE904858, BG163418, BF308249, BE278984, BE256249, BE783475, and BF306765.

HTTCT34	80	626178	1 - 478	15 - 492	BE561581, AL525396, C75208, BE545814, AA311414, AL526582, AL533011, AW411262, BF085161, ALS22581, BG104167, ALS20536, AL521296, ALS26904, AA334000, AW938624, AU119915, H06122, AW239479, W38676, T50005, AA297279, BF115394, AA302953, AW383613, AW383609, BE958011, AW192348, AW383535, AU120830, ALS25440, BF376170, AK022780, AK000480, and AK021925.
HBIAS14	81	637714	1 - 1172	15 - 1186	AI991774, AI793266, BE327552, R74441, BE669500, BF110563, BF448329, BF444926, BE674147, AI807726, BE326537, AW770471, R86080, W04256, AI218667, BE707244, AI492388, AI241532, AI656102, BG012864, BF899452, BF448184, AA301750, AA634640, AI209012, BF331319, BF351759, and BE162660.
HLHSC60	82	638175	1 - 2017	15 - 2031	AW954150, BE271663, BB882577, BE782266, BG034024, BF663854, BB893189, BE906274, BF795047, AI174990, AI064968, BE385133, AL045811, AW410843, BF965937, BE622204, BE614963, BE622511, BF678467, BE271473, BE070862, AW959590, BE271421, BG250794, BE393250, BE746439, AA311362, BE772855, BE268978, W07340, BE019799, BE898464, AA308973, BG027995, AW803849, BE070813, BE562790, BE616540, AW139566, AA131594, AW410844, BG168299, BF031891, BF944978, AW803908, BG255067, AA308972, BF964638, AA180857, BE931993, BE207171, AW386119, AA621720, AI129355, AW192930, BG107431, BG112045, AI288447, AL138262, BE772804, R13316, BG180320, AW902886, AW675677, AA356436, AA373955, AA359864, AI002952, AA180960, AA757406, N78600, T08173, AA705625, H08897, BF964047, AA300048, R98996, AW265468, BF907879, AA249313, AA330694, BE694965, AW611507, BE070869, BF801643, AW148821, AA206756, AI702049, AI445699, BE018971, BF934783, F08693, BG169186, AA846014, BG059139, AW262572, AA147521, AA300049, BF592442, BE070861, BF808559, BF805874, AL121039, AA377004, AA094441, BE770962, AI202581, AA352076, AA172103, AA157620, BF990008, AW577279, AA248016, AW302196, AW391207, AA668421, AW351439, BE142172, BF541501, BF805841, AI886293, BG254398, BE708133, BF342268, AF132207, AC021075, AL355871, AL137654, AL035458, AL096776, AL132825, AL135844, Z85987, Z99716, AL121712, AL133448, AL445483, AC024148, AC069253, and AC069253.
H6ESA95	83	638229	1 - 1139	15 - 1153	AL529511, BE274975, BE727372, BF130709, AW167560, BF594230, AA098911, AW269481, ALS29512, AW778988, AI093550, AU145793, AA643337, BF968948, BE302021, BB042613, AI689039, AI081116, BE833918, AW080976, BE045302, AI870146, AI907088, AI799998, AW338493, AA604822, BE796992, BE501153, AI589588, BE379185, BB932009, AA565586, AA579904, BE728414, AI687423, N92368, BE791438, BE746912, AU119457, AW995464, AW044476, BE901684, BE389989, BB018410, BF969275, BF686029, BE260612, AW886202, BF361026, BE386194, BG251377, BF306113, BE797307, BE279225, AW577017, BE897898, BF684743,

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AA654088, AI919450, AI761377, AA887945, BF972784, AI283990, AA098824, W24563,
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AI698401, AW302432, AI802833, AI610667, AW050578, AW301375, BF911528,
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AW105601, AI336662, AI281867, AI554821, AV721110, AI866082, AI470293,
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AV739365, AI885999, AI919593, AI336585, AI349266, AI334452, AI349787, AI344938,
AI312146, AW022584, AI312339, AI309431, AI340537, AI868204, AI345258,
AW059713, AI307459, AV758110, AI468959, AI559863, AI868163, AI612885,
AI307507, AI348879, AI521594, BB884190, AL046463, AW020419, AI423326,
AI538850, AI311604, AI312333, AI263584, AW083572, AW161202, AI310945,
AI12431, AL040694, AW302892, AL038605, AL039086, AI620075, AI961589,
AI349598, BF924855, AI567582, BG032036, AI682903, BE892572, BE964078, AI702527,
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AL389983, AX046842, AL080140, AX040958, I89947, X80340, AF094480, A08913,
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AF130068, AL137656, AL050393, U42766, S76508, U49908, AF207829, A18777,
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I89934, AF116644, AK027144, AF061573, AR083266, AB048964, AK000618, AL122106,
AF119860, AF119856, AK025113, AL137558, AF260566, AL080129, E12747, AF090934,
AF022813, Y10823, S36676, AB050410, D89079, AF090886, AF090900, A08916,

HKMAA36	84	638339	1 - 1332	15 - 1346	
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HLTFA02					BE274374, BE299307, BG149449, AA149565, BG010137, BG004980, AA169366, BE142714, BE812221, BF666656, BE812319, BF079717, BF751577, BF920681, BE939365, BF935231, BE909849, BE270211, AB033092, and AC005539.
HISBE12	86	645267	1 - 1526	15 - 1540	AU134630, AU133566, AU138245, AU137852, BF574374, BE069938, BF107314, AV704855, AW963336, W23461, AW167802, AA563938, AI127313, AI539532, AA490669, AI874113, D82422, AA226521, AA226177, AI973210, AA386154, AW953092, W05488, AA347504, BF358693, C75173, T55946, AA358324, TS2564, AA911206, BF106969, AA336586, AA347630, BF672805, AA452645, AW748957, R82314, T73366, BF369339, AW449322, AI546920, W21489, BF357935, AA366888, W76518, AA091839, BF574018, AA602826, AA362984, AI248642, AA058387, BE176207, BE835004, AA134033, T97372, R00339, R91853, AA004243, AA001805, T57235, T64521, BE090983, AA402341, AA099736, AX047362, AF226614, AF231121, AF215636, AK002038, AF215637, AF226613, AF231120, U76714, and AF147322.
HEBAE43	87	645268	1 - 610	15 - 624	AL521098, BF574602, BF673499, AL046863, BF316406, AW954218, BF977073,

					AV743764, AA452012, BE968758, BF104755, T67556, AI089430, AA622029, N51712, AW071881, AW025440, BF593629, AI860915, AI332399, BF248072, AI022266, AA994095, AW014246, AI074224, AI039833, AI288177, AI800953, AA780157, AA757265, AA627632, AA577687, AI092970, AL046862, AA946602, AI093731, AA179187, AI187002, BF055069, N62956, N75603, AA862619, BE899037, W94925, BF149174, AI348280, W95269, W00738, AW750555, W95270, AA292692, AA877282, T96893, AA725376, BF375148, BF372298, H70019, H93474, N95238, H92136, AA430388, W92196, N79859, AA860857, H85196, BF027974, H84661, AV743523, AA293150, AI253649, AI718728, N51801, AI524405, AI383237, AW273559, AI147145, AA352434, AA397987, H01797, H93473, H96838, AA327405, AW084140, W21067, R46856, BF377112, AA369355, H92137, AA421105, AA564314, T84413, W07127, T69552, AI582631, N63622, AI202094, N80289, BE142536, AD269378, AA976190, AW801132, AI660275, AA353783, AA873627, BF354351, AA931541, AI017335, W05621, R46761, AA937741, AA353783, AII59785, AI288178, AA877001, AA996304, AI471911, AI141409, AA179188, BG151854, AA652715, AF161509, AC023055, and AC023055.
HSBBC07	88	655007	1 - 632	15 - 646	AW957695, BG167431, BF667170, BG029651, AW629846, AW958886, BE566320, BF794745, AA187579, BF027457, AI870419, BF694672, BF245466, BF68R231, BF184831, BE252410, AA375691, BG024470, BF701292, BF212001, AW173013, BF218360, BF666624, BF678487, W31735, AA894530, BF245493, N78134, AI379833, BF211069, BF029426, BF209151, BF695644, AI339336, BE565388, AI336165, AA383311, BE565724, H04478, BE546835, BE302428, AA296522, AA282901, N40501, W58050, BF665566, AW615315, BE897499, BE858489, BF696213, BE568842, AI660120, AW630758, BF668121, BF207942, BF700860, BF239325, R80104, AI697018, R70837, BE793058, D20722, AI418065, BF694034, BE538634, AI961630, AA126483, BF243257, AA946777, BF699997, AA358261, T31842, AA329615, BF211844, AA463798, AI372055, N31210, AD280166, AD81293, AI191797, AA918864, AI018252, AI804228, AA381668, AA115687, AA864307, AA948109, AA938579, AA932915, AA460235, AI123356, AI124079, AW754363, AA939258, AI01697, AW627534, AI476152, AI284979, AA806449, BE789077, BF239695, AA181956, AA633371, AA740178, AC011890, AB034206, and AL110115.
HL2AE73	89	655590	1 - 354	15 - 368	AW138862.
HE2OO57	90	656211	1 - 513	15 - 527	AA587990, AI355697, AW955630, AA328879, AW954613, W01389, AW999957, AW440737, BE069761, AA476616, AB019602, and AB019494.
HEEAR13	91	656288	1 - 381	15 - 395	R01466, R08954, AA422070, AI204649, and AK000032.
HFIYL13	92	656815	1 - 1074	15 - 1088	AL536911, AL527869, BF245609, BE270323, AA044869, BE893730, BE733057, BF242916, AL527868, AA306654, BE268826, BE875296, AU149506, BF747701,

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HLWBH14	93	658066	1 - 528	15 - 542	BF747559, BF688822, BF743065, AU153925, BG253085, BF768009, BE882028, AK022744, AK023347, and AK000318.
					BE407162, AA188632, BF027256, BE253590, AI765126, BE408498, BF448597, BF057607, BF061666, AI167162, AI149274, AI122952, AI470212, AI740767, H96358, BF433481, AI240225, AI168425, BF979354, H13281, BF025838, W15511, R69088, AI240223, AA526820, R68610, R67855, R26131, AI760064, H87001, H92608, H95449, BF507644, AW951915, AA307149, BF439530, BF108898, BF475986, AK000044, and AL078599.
HATDW51	94	659283	1 - 866	15 - 880	BF060905, N40525, AI347028, AA017496, AW594216, AI040075, AI039421, AI458626, AA286737, AI241136, T76946, N26680, BE503575, AA287611, AW085657, AI039280, AA651849, BG057152, H81831, AA628122, AA806765, AW613553, AI445047, W95380, F13174, N46574, AI191989, AI191995, BF833339, AW662034, AV709642, AA659062, AI381740, BF745429, BF745855, AA620360, BF745430, BE816364, BE816359, AW795253, BB816357, BF743976, and AL135744.
HDPWQ69	95	659380	1 - 613	15 - 627	AA458518, and BF929403.
HNTBM67	96	659801	1 - 1057	15 - 1071	BE883765, AL134955, AA307472, AW960339, BF949791, M78461, AU130812, D56412, AW382561, AW382555, AW382532, AW382562, AW382559, AA223890, AL536122, AA826373, AW382553, AB014509, AB011159, D84346, and X80029.
HAIDY03	97	660532	1 - 525	15 - 539	AI061582, AV727485, BE709741, AV726610, AA334472, AW965472, H10895, AV728038, AV709174, T83167, BF836499, AA243549, AW368027, AW631441, AA487327, R94251, T82868, AA487348, AW663438, AW005046, BG251451, N76939, AW994061, H14927, AU148042, AA057050, BE779718, BF693286, AA249224, T87261, AI218622, AA506341, AB029008, and AK022433.
HDPDO12	98	661436	1 - 813	15 - 827	N30852, BF969528, BF025927, AA649075, BF315460, BF726778, AA044232, AA425185, BF316493, BE260771, AI554723, BE047920, AI311315, AW029340, AI521451, AI805148, AI498798, AI087161, AA805252, AA405814, AI336402, BF680729, AI523953, AI275026, AI066488, AI863172, AA578642, AA417368, AA643942, AI024499, AA771979, AA889325, D63281, N30846, AW072029, AI032053, AW973064, AA101605, AA535747, AI299774, AA405813, W87448, AI191773, AA532648, H19832, AI268393, AW511845, AA745462, AA504479, AA722399, AV693812, BE777538, W87547, W31335, AI991341, AI004929, AW389246, BF247509, AA527348, AI033919, AW881217, AI343828, R12706, N92451, AA812821, AA991616, AW071205, AI092319, AA252648, AA055130, AI538413, AI014793, AA568733, AI000773, AA586676, AA228934, AA746136, AA872357, F32688, H19862, W20305, BE772781, AI037869, AA770508, AA476252, BF592563, F28098, BF060869, AA523469, N90683, H79071, AA094921, AA262932, R78468, H13151, AA937835, F19025, AA740856, BF591772, AW071810, AW607594, AA044371, AI870108, AW607628, BF438690, H04564,

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HAGBC45	99	661694	1 - 1524	15 - 1538	AI681538, AA399973, BE326518, BE504079, AA573265, AA401309, AI379315, AI215506, AW471197, AI377132, AI681742, AI332991, AW269403, AI377465, AA456746, AI685315, AI263428, N93369, AI374952, N32714, N23006, AA884641, AI218150, W24957, N95585, AA226426, AA773714, AI140445, H17820, AA253264, T86889, AW269001, T86888, AA226563, AI033243, AA041235, H17819, AA358475, R16622, R16564, W25386, AA883664, AA773710, R16637, AA040797, BF509086, AI927610, N89206, AI208762, AK027056, and AK026797.
HNTNT65	100	662513	1 - 466	15 - 480	AW390157, BE250250, AA984504, BF872063, BF376487, BF934232, BF923015, BF089975, AW294491, BG013986, BF733484, BE938102, BE719457, BE719459, BE935304, BE935305, AA385992, BE935592, BE907538, AI364918, BF334977, BF848924, AW296910, BF115534, AI831921, AI762572, BE764192, BG002605, BF764158, AX011645, and AF151799.
HTTAA50	101	665234	1 - 1156	15 - 1170	BF672232, BE537550, AV726990, AW450529, W32935, W35246, AA291282, AI240547, R16759, AV708580, AA053120, BF131640, T90562, AA436957, AW673770, BE348961, D79613, BF112026, D62474, BF795760, T90089, AI040785, AA496051, AI927287, AI935626, AI245410, AI151377, AA877741, BG152881, BF222016, R09207, AI913677, BE174769, AI027090, BE049632, AA991755, AA889277, BE327905, AI217584, BE222030, AI825249, AA765219, BF059450, BE645880, AA761487, AL050331, and AL023280.
HAGBX32	102	666416	1 - 625	15 - 639	H04905, W29095, H11833, AW875327, AF134640, AF100346, AC004125, and AJ272044.
HHIMM1 8	103	666429	1 - 531	15 - 545	AA258921, BG026982, BF056154, T11903, AB037838, and AL050333.
HHFGR08	104	667779	1 - 1565	15 - 1579	BE748748, BE748510, BG255761, AW393085, BF240527, AW976133, AV707941, AI742057, BF102537, BF241358, BE748448, AI264355, AW875250, BF242245, BE748211, BF243467, AW875242, BF242831, BF215321, AI435473, BF213944, BF213952, BF028653, BF243295, BF243838, BF214842, BF243749, AA676810, BF242687, BF242568, AI884446, BF031764, BF241173, BF215271, AW452347, BE043080, AI280708, AW152544, BF243754, AA284643, BF214962, R83315, AI687112, AI623742, BF215307, AW512889, AW594361, AA737033, N63887, BF242146, AI538659, BF239594, H60297, BG180852, R99166, BF214678, AA134487, BF215366,

HHBEU19	105	668286	1 - 510	15 - 524	AW083596, H60298, H48469, AA290765, R50608, T23528, AI873862, N92031, R50519, AW875361, BF241309, and AA211082.
HWBBB21	106	670586	1 - 699	15 - 713	W00819, AW963996, AI949555, BF245063, AA377198, and AA249131.
HAIDX85	107	672653	1 - 2052	15 - 2066	AW468066, AW238267, BB618753, AW897644, R14231, AW897647, BE179313, BE963215, BF814967, AW872506, BE173335, BF912222, and AK000143. AL534096, AL534095, BG259886, BF970703, BE304636, BE536920, AW973921, BE301321, AW386287, BF982614, BE818465, BF018698, BF314421, BE741216, BF726009, BE138864, BG116337, AW613797, AI569625, W28817, AI18322, AI217373, AA256422, AA568911, H09030, AW613797, AA662710, AI38593, AV725885, W26670, H03838, BF374209, BE315044, BE742801, AA662710, AI38593, AV725885, W26670, H03838, BF374209, AA312912, H03839, BB810299, AA862597, BE810307, N46856, N39122, C16564, R18735, R11595, BF857926, BR920704, BF822773, AA147297, AA340634, BF954410, BE868860, BF949714, AA147186, AI044616, AI022477, T89971, AI444617, AI808006, and AK026744.
HMMAV06	108	675380	1 - 629	15 - 643	AU135561, AV752385, BG060175, AW378313, AW378316, BF680418, AB002347, AK026998, AL049843, and AK026948.
HISAM25	109	677920	1 - 779	15 - 793	BF531021, R55610, AA179088, AU132929, F07005, BF725066, AI143877, BF693602, AK023273, AX047351, AB040930, AC024167, and D45913.
HRODX93	110	678316	1 - 712	15 - 726	AC006262, AC024698, AC024698, AC024698, AC022273, AC023349, and AC023349.
HLJDK82	111	678819	1 - 3245	15 - 3259	AL521457, AI051591, AL521456, BG028004, AV661958, BF981848, BG257469, BE560747, BF037795, BG261369, BF510976, BF791665, AW378643, AL134642, BB613309, AW960340, AI692896, AI952060, BF677984, BF349860, BF432744, BF676148, H93052, AA156070, W85861, BE072769, BE004809, BF830574, AA195128, AW401953, BF107422, AW272711, AA452951, BE858150, BE644932, AA307793, AA304943, AA773575, BF693391, AI936207, AA773916, BF132474, AW295959, BF834093, AI373149, AA182021, AA055577, BE315444, AW104431, AA767726, AV749526, AI215110, AII24008, AA186538, AW152132, AA037776, AI972932, AW468710, AI752572, AV724037, AI983223, N73564, N40159, AI002310, AA677490, R93506, AW168300, AW753567, BF349968, AI214625, AW268724, BF086970, AA306855, AI752573, AI074572, AW272230, AW977732, AA001953, BF130159, AA165681, AA004671, AW662398, AA182938, AA643741, AA580108, AA155986, AW386169, AI082391, Z44330, AA121127, AI214614, AA635553, BF246170, AA122425, AA773509, BE612719, AW083935, AV696709, AI979176, AA452813, AI435966, AW118902, AA620795, AL119024, AA613564, AA382161, AA758804, BF744099, AL121332, AI783502, AW969082, AW300568, AI086188, AI340942, BF000775, BE893817, AA827249, BF701522, T40456, AV748242, BF332048, AA620891,

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HCFMJ37	112	682668	1 - 592	15 - 606	R52491, H17763, AL038768, BF691687, AV717005, AV734854, AV728273, AL035739, BE748156, BF979733, AU118684, BF575231, BE568917, AA084554, AV718330, AV726438, H16532, BF904068, AI750581, AI903894, BF033632, BG104800, BE738971, R21494, BF246715, BE785069, AV717056, Z41981, BF983256, R13337, AA322574, AA448043, T26420, AA461375, AI903843, AI792383, AF161445, AF212245, AK021683, and AF151047.
HMWAP17	113	682949	1 - 639	15 - 653	AA156614, AI082082, AI086841, AI147047, AI185792, BG032133, BG034866, AW964839, BE740466, AI685906, AA569397, AI191694, AI188677, AI189282, AI022346, AL527990, AI128015, BG164811, AI160462, BF689154, AA151425, BE300105, BE206572, AI129363, AI572655, AI190802, AI192597, AI421638, AI123915, AA588200, AA632395, AI189252, AA812308, AA988393, AI141184, BE349219, AI079428, AI092471, AA931075, AA599284, AI459518, AA621601, AI888940, N35806, N90875, AI093935, N27456, AA126032, AA826851, BG165764, AW337130, AI093326, AW338528, N90134, BE789089, AI573072, AI978985, F36547, AD264288, AW083207, AD68392, BE221316, W02208, AI868334, AA857962, AW769494, AI874277, AW591194, AA156917, AW511453, AA574010, AI953460, AA485449, H99139, AW793090, AA485617, AW194542, AA480004, AA482529, AA453453, AA738323, BG121838, AI36581, AI146899, BE219045, AA074444, AA417875, AI272974, H06706, AI357984, AI049922, AA143143, F30191, AA143382, AI872526, AI925798, H93348, BF204611, T56729, AA470878, T83669, AA989134, W32004, BF822183, BG251677, AW051161, AI192266, AW339303, AA669703, AI873894, H95625, AW206415, AA857972, BG117198, AI932563, AA991593, C00453, T84534, AW078974, AW206415, BG165138, AW008736, BE672775, BF380144, AI611003, T83833, BF001688, BF812028, BG165138, AW008736, BE672775, BF380144, AA658204, AA341518, AR060388, and AF058807.

HMCFA76	114	684293	1 - 560	15 - 574	BF969528, BF315460, BF025927, BF673758, AA649075, BF726778, BE260771, BF680729, AA805252, BB047920, AB11315, AW029340, AI521451, AI805148, AA425185, AA643942, AI087161, AI336402, AAI01605, AI554723, AI498798, BF316493, AI523953, AA405814, AI275026, N30852, AA578642, AI066488, AI863172, AA771979, AA417368, AI024499, AW973064, AA889325, AA504479, D63281, AI032053, N30846, AA527348, AW072029, AA535747, BF247509, AI299774, AI191773, AA044232, AA405813, W31335, W87547, W87448, AA532648, H19832, AA722399, AI268393, AW511845, BE777538, AV693812, AA745462, AA055130, AI991341, AI004929, H19862, AW071205, AA252648, R12706, AA586676, AW389246, AI033919, AW881217, AA812821, AB343828, N92451, AA991616, W20305, AA228934, AI092319, AI014793, AA568733, AL538413, AA746136, AI000773, AI037869, AA872357, AA476252, AA094921, F28098, F32688, BE772781, AA523469, AA770508, H79071, BF592563, AA937835, R78468, BF060869, N90683, AU121888, F19025, H04564, AA262932, AI870108, R16450, H13151, H94808, AA101604, BE938328, BF591772, AA740856, AW071810, AW607594, AA504556, AW607628, BF438690, AA055051, AW262852, AA618357, AW864878, BE166026, BE855379, N83997, AI859479, AW970118, AA515190, AI239641, AU147619, BE812158, AA210633, AI032027, AW168939, BE166064, BF091989, BF870262, AI738961, BF091992, AI084177, AW751676, AA299420, BG099186, BF765530, BG058939, BE925027, C01735, BE171344, AA373508, AV709813, AX014301, AK024167, and AX014305.
HTHCM28	115	684309	1 - 1973	15 - 1987	AL524312, AL522827, BG260938, AL516117, BE792575, AI922575, AI922738, BE873250, BG180370, BF311244, BG121041, BG036096, AI742798, BG031508, AW473070, BG178428, BE621819, BE876480, AW965166, AL524313, AI521861, BG164176, BE207270, AU154596, AA156048, AW796242, AW605147, BE081689, AW608807, AI937084, AW385322, AU147492, AV716431, AU148219, BF197439, AW474818, AW071089, AW247207, BE301182, AW834827, BF997412, AI393092, BE220183, AW150166, BF698915, AW247815, AW129619, AA593405, AW439761, AW366702, BE167300, BF058546, AI191767, AU157014, AI827281, AA055259, AA082848, AW474734, AI274887, AW292560, AW292339, AI681022, AW937927, N71255, AA454912, AI754310, AA961126, AA454836, W01562, AA088679, AI050679, AI467791, N58730, BF851421, T30213, H79378, AA157459, N62405, BF754744, BB082261, AL138072, AA112191, AW105535, AW206734, AA055258, BB183938, AI187893, AI630182, Z40024, AU157710, AA759028, AA086241, BE835912, T81323, R01268, N72641, AA679367, T07142, BE061996, BF964279, H79267, H27407, AA972254, AA204677, BF986068, BF062635, BF798884, AA995340, AW237668, AW772066, AW900962, T81852, Z46058, AA557468, H28601, BE812021, BF353337, T32580, AI536616, AL044924, BF849656, R01382, BF212235, AI434054, BF743715, AW293484,

Clone	SEQ ID	Gene No.			Sequences
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HHEDB45	116	685054	1 - 620	15 - 634	AI207821, BF952987, BF155610, AA102259, AW379923, AA301458, BE925010, AW889669, BF772647, BE696816, BF733180, AU160796, BF762963, AK001719, AF152961, AL135744, AC007528, and AK024072.
HTACX15	117	685191	1 - 995	15 - 1009	BE883093, BE884483, BG027520, H10439, AW955523, R52785, AA281828, T79895, R67193, AV730640, D61521, AV730776, Z19358, AA305743, H21747, AW062518, AW501215, N53853, BE974133, BF577121, AL136501, AK025606, AK022978, and AF131775.
HFIZN55	118	685340	1 - 701	15 - 715	W86347, BF432058, AW008475, AA446825, AI491957, W86348, AC002064, and AK024715.
HCEIU38	119	685495	1 - 2418	15 - 2432	AL537630, BE379378, AW953381, BE745060, BE408034, BG250739, BE731485, AV707754, BE730630, BG114419, BE394329, BF035312, BF341487, BF220298, BF791852, BF219748, AW409633, BE273198, AW793675, AW409746, BE673022, BE141458, AW365221, BE273114, AI888252, BF960994, AW793608, BE336870, AI963081, AW365985, AI719352, AW628991, AI870998, AA526056, AA824646, N40215, AI037847, AI554890, AW365950, AI598219, AI830693, W90606, AW365925, AA227444, AA732821, AI800413, AI817298, AA025450, AI127436, BE729822, AW190798, AI675827, BF215308, AI335265, AW605015, BF308910, AI890641, AW149481, W90283, AW087384, AI281445, AI289868, AA127060, BF826466, AA993770, AD205967, AI674727, AA565110, AW408017, AW071077, AA126671, AI086531, AW407623, W67695, AA676533, BE677211, AT763067, AA486290, AA622632, AA125937, AA025895, AA992888, AA314447, W68154, AA075942, AI582947, AW237626, AA799186, BG057888, AI298301, AW117849, R18337, BF379757, AA025449, BF840544, AI799186, BF759488, R35325, AA262924, F12691, AI971065, F27343, R48988, AA354778, R42383, BF759488, T74957, AW779410, BE247290, AI358844, AA907111, F09227, R49398, BE828133, BG012833, AA526002, R92809, AI290093, R43689, AA055120, BF933629, R35011, AA055119, T99344, AA148960, F10300, AA092883, AA367228, AA127831, AA011292, AA807291, Z38701, AI471094, AW874232, ZA2505, BE139605, AI418711, AI363914, AI127837, AA010856, AA148959, F11573, and T99554.
HNFIL36	120	685604	1 - 762	15 - 776	BF568200, BE900421, BF568961, AW291267, AI912687, AI568596, AW956329, AA725526, BE504463, AI298130, AI921203, AI367591, AI348687, AW295172, AI885246, AI521328, AW050798, AA456741, AW291380, BF438189, AA992499,

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HSKZB03	121	686533	1 - 1774	15 - 1788	BF038650, AW600316, BE875992, BG253891, AW731682, AW372313, BE878814, BF591262, BE880516, BE875882, AW601338, BE206056, AW601314, BE877211, AA704088, BE219547, AW068001, AA223294, AA463501, BE902880, W46285, BE547229, BE786476, AA825343, AW068149, AW068066, AA113396, BF984659, AI754129, AW166703, W46425, H97088, BF820322, AI400098, BF436533, AA463548, AA126474, AA373922, AW294872, AW601596, AA120990, AI906777, BE549833, AA506770, BE300315, W51857, AI650979, AA999931, AW673699, AW604817, BE875366, AI908075, AI908094, AA676408, AF098462, AF055460, AR035377, AB012664, AF031036, AF031035, AB030707, and AR091383.
HNTMZ26	122	688935	1 - 402	15 - 416	AL533776, BF238947, BF671575, BF307134, BE896826, BE615467, AA297354, AA451764, AA127134, AA451762, AW239455, H10448, BE296524, BE297034, BE299140, T78950, BE311846, BE299196, F06459, BE294911, BG251513, BE270310, BF791036, BG110633, BE792285, BF338838, BE880218, BF308716, AL513740, BF979464, BG121135, D31389, AA297420, BE266974, AA194682, AA296942, AA297421, BF725960, BF038786, BG030014, BE784543, AF169481, AR076172, and AF125533.
HHENC76	123	689978	1 - 356	15 - 370	H63787, AA348525, AW961852, AA317641, BG251796, AK026836, AP001714, AL138825, AP000104, AC009731, AC010605, and AC011248.
HHSGJ30	124	691490	1 - 691	15 - 705	N63401, N95690, T07930, R42490, F11129, R38167, Z38365, and AW896192.
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HJKSC77	126	698634	1 - 486	15 - 500	AF192401, AF192402, A08911, AR068753, AL080124, AL162002, AL137429, L13297, AK027114, AF130066, AL137526, AK024538, X87582, AJ000937, AB047623, AF119865, AL133081, AK025414, AX019229, AL117460, M86826, AB007812, AB052200, AF260566, AF106657, AF208026, U42766, AL137521, X55446, AI250403, AY004290, AK024524, AL389939, AF113019, AL133067, AL389978, Y11254, U67958, AF067420, AF069506, AF217987, AR059958, AL137554, AK027160, AF017152, AF119857, I30339, I30334, AF026008, AL050108, U73682, AB032264, AL122118, AL137273, S76508, AI005690, U72621, U49908, AK024570, AL136842, L19437, AK027102, U70981, AK027096, AB048964, AL137560, AK026518, AF159615, AK027213, AJ238278, AF047443, AF094480, AL122093, AL050138, AK025465, E01614, B13364, AF057300, AF057299, U72620, AR035161, A08907, AF126247, AL050024, AB041801, AK026959, AK025407, AL161953, AL137459, AB033881, AL117585, and AK027200.
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HDABD32	127	699216	1 - 459	15 - 473	BE900337, BE903374, BE900986, AA282606, BF814200, and AK023151.
HWACC64	128	702658	1 - 758	15 - 772	
HMWIW46	129	703503	1 - 1437	15 - 1451	AW964211, AV715723, AI133171, BF056982, BE256492, BG179131, BF112079, AI344307, BE278346, AI002167, AW575319, AI191619, AI762132, BE326361, AA279101, BE278358, AV716566, BF939523, AA548744, BE220654, AI338615,

					Accessions
					BE278191, AV752354, BF062335, BF061703, BE221006, AI337155, AI951768, AI631961, AW166120, AW573299, AV753159, AI742696, AI148802, AA258288, AW374032, BE218733, AI659040, AA769906, BF210670, AW243138, AI458943, AA947700, AA005338, AW968472, AI131522, BE467027, AI738782, AV739442, AW971767, AA928765, AI652006, AI540795, AA947646, AI301578, AA278837, AI419304, BE221285, AI073760, BF594676, AI914313, AA704914, AA915934, AI692947, W84709, AA677001, N47492, AA704721, AA287290, AA281053, AI783633, AA259130, AA459259, AI268517, AW664821, AI038536, AW612238, AA005432, AA908674, BF195829, AI129070, AA765582, AI424191, AI073770, AA307105, AA085232, AA255496, AA057872, AA252841, AA257027, W78855, H81798, HS2414, AA352940, BF246477, AW406421, AA005431, AW205813, AI422501, HS2413, AA057877, AI474305, AA081373, AA357781, AA081374, BE940541, AA005339, BE831041, AA720902, AA353070, AA769172, BE940706, AA357780, AA360882, AA085163, AA744140, AA481157, AA491288, AW805923, AW136823, AA481490, AW206306, BF437272, AA215824, AW858931, N47491, AI364893, T54544, T54585, H49180, BE787366, BG180435, R81120, BF986319, AA448931, AA452418, AW750022, AD239702, AW019901, AF151856, AF161495, AK025738, AB028628, AL050261, and AL132874.
HSDIJ72	130	705030	1 - 634	15 - 648	AA034056, AV700319, AV700909, AA033868, W94349, AA827892, AI874315, AI093264, AW080626, AW974315, AI090146, BE646652, AA658056, AW328176, AA135804, AA496546, AA524121, AA411710, AI559584, N26793, AW614867, N32251, AW138477, AU149509, BF206691, AA654002, W95497, AA777148, AI026045, AA974245, AA401911, W95584, AI948932, AW027666, AA765907, AA032272, AW204082, AA078960, AA834423, AI948922, AI248636, AI814115, AI214334, AA078862, AI203938, AW953690, AI921902, AA694134, AW004623, AA062740, AI040594, AA644260, BE790426, BG106683, AI277243, AA343039, AA523862, BF914322, BF340988, AA366536, AW085486, AA406088, AW886791, AA513668, BF311155, AA247868, AA429963, D20862, AI000285, N35265, AI193674, AI890372, AW974314, BG106290, BF821760, BE408029, AW804773, AW934973, AW629655, AL080249, and AK022745.
HSLGO34	131	706987	1 - 511	15 - 525	H14987, H12917, and AA035197.
HTOJF39	132	707266	1 - 1423	15 - 1437	BE621745, BG164387, BF574824, AL045714, BF672339, AW968371, AI762887, BF589414, AA465412, AI927679, BE644646, N79630, AW131135, AI802356, N63954, AW052111, AA688055, BE049217, AI222346, AW131189, AA194362, AA455696, AA814052, AW151362, AA810129, AA417791, BF576898, AA417695, R30902, AA453295, BF693456, BE827797, BE714257, AI825696, BE714293, BE714247, BE714219, and AC004990.

HPDEF35	133	707398	1 - 452	15 - 466	AA367210, BG032330, BF218504, BF247068, BE549484, BE738862, AV735508, AV737947, AV761865, AV758973, AW609720, BG119702, AA082767, BE884717, BE254128, BE409572, AL533384, BF692789, N88831, R23418, and AF125096.
HFIAW95	134	707878	1 - 558	15 - 572	AI209130, AI125408, AA868860, AI992321, AA047463, AI968499, AA411900, AA047397, AI241928, AA412094, AL133068, AK000033, and AL022328.
HMEIU36	135	708053	1 - 1062	15 - 1076	AI377407, AW973933, AU159464, AI591053, AI140794, AA085176, AA568840, AW059669, BE328386, AU142080, BF242387, AA085250, AL533715, AL525916, BE563312, AF036035, U90094, U73167, and AF040710.
HHEDM89	136	708177	1 - 699	15 - 713	AA599042, AL109865, and AL136133.
HKABW60	137	709347	1 - 766	15 - 780	AW410841, BE779375, BE892790, BF220111, BE251015, AV690387, BE780842, BE910652, AU129014, BE392799, BE777827, BE960806, AA306541, AA488585, BP950625, AA382085, BE295732, AL518759, BF037466, ZZ8940, AL524496, AL524495, AL518758, BE552293, BF000272, BE048523, AW797906, BE044002, AI990527, AW614747, AK001455, AJ006291, and AL163279.
HWLFB40	138	710542	1 - 615	15 - 629	AU139304, BE279067, AW842140, BG179422, BE391303, BE275569, BG252992, AW807017, BE409854, and AK002182.
HDTDW40	139	710974	1 - 397	15 - 411	AL528775, BE142925, BE142928, AW847734, BG256636, AV650935, AW847732, BF935776, BE143004, AW749636, AI907806, AW752591, AW847801, AW847931, AK026928, AB037835, AC007404, and AK001513.
HEAAK34	140	711111	1 - 943	15 - 957	BE541855, AV716189, BF676470, BF906385, H16878, R56761, Z44727, H16267, BF931516, BF931560, AA663589, BF756845, T95749, AA834548, BF154552, H09671, AA809486, R91239, N50504, and AF161420.
HLWAH41	141	711706	1 - 881	15 - 895	R98276, BG011064, BG004978, T95945, W33061, AL136139, AC012558, AC000047, AL109935, AL136298, and AL365505.
HHSFI89	142	712570	1 - 765	15 - 779	BE010994, BF373745, BF327232, BF837452, BE086177, BF891340, BF989358, AI143465, BF877014, BF988288, BF592627, BF359465, and AW894924.
HSAVI33	143	714693	1 - 1561	15 - 1575	BG104258, BE798074, BG258223, BE887659, BE386155, BF125405, BE795610, BG029685, BG109393, BE675497, BF726957, N45533, AW469532, N28230, N25915, AW269727, AI089440, AI285952, AW748001, AA160294, AI377089, AW418733, AA937876, AI305151, AI220584, AW166442, AI582936, AA809358, AA314425, AV736878, AI339629, T16389, AV736541, AI221760, AA149870, AI288351, AW402220, AI400972, N42157, N33119, AA834035, H97523, R43925, H11078, AA160231, AA033775, AA115316, AV743890, AI373714, N48680, AA149815, AV748694, AW351448, H56181, R15111, AA033774, H56398, T08901, AW181998, BE827048, AA742663, AA830598, AW516481, AA749049, N56533, AI193709, BF987116, BE410460, AW086170, AI597612, BE465550, AI457804, AI214687, AI923937, H98583, AA975955, AW005216, AA092044, AW197792, AA889532, AA133171, AW629303,

| HMJAX17 | 144 | 715359 | 1 - 708 | 15 - 722 | BB827051, AI057342, AW779081, AI581482, AW768976, BF294063, AA134603, R19274, AW304340, AW081512, AA811951, R45717, BE827057, BF758568, BB827054, T81759, BE827047, AI018596, BF358649, AA923709, AW043965, AW606319, and AF248648. BG261392, BF752467, AA194257, AW511409, AI912611, AI350842, AI497969, AI991928, BG109534, AI061156, AA744999, D53392, BF349631, AI680322, H11244, H07921, AI697635, T07017, AW367919, H11599, BF514837, AI610452, BF516523, AI909924, BF844285, AW151974, BG113493, AI866469, AL043168, AI872423, AI440238, AI866465, BG164558, AL539260, AI859991, AI860003, AI366900, BF525578, BG029667, AI433157, BG252929, AW151136, AI539771, AL037454, AI538850, BB897632, BF796402, AI537677, AI494201, AI500659, AI815232, AI801325, AI500523, AI582932, AI923989, AI284517, AI500706, BG166654, AI491776, AI445237, AW151138, AI670009, AI889189, AI521560, AI500662, AI284509, AW172723, AI440263, AI889168, AI927233, AI866573, AI633493, AI434256, AI805769, AI888661, AI284513, AI888118, AL036923, AI436429, AI889147, AI371228, AI440252, AI866786, AI804515, AI610557, AI690946, AI887499, AI805774, BG110517, AI815239, AI890507, AW074057, AI554821, AA480074, AI828583, BF338002, BG116926, BG261116, AI432030, AW858243, AI801152, BE878725, AW151132, AL042365, BF970652, AL045500, AI702073, AI648454, BE886728, BF766529, AI702065, AL119791, AI890907, AI698391, AL080011, BB885490, AI354998, AI473536, AL515195, AL046595, AI371251, AI866510, BB908744, BG257535, AL538885, AI242736, AI434242, BF795712, AI581033, BG170937, AL513913, BF811804, AL036705, BF037001, AI569637, AI440260, AL047100, BF814450, AI804505, AI648567, AI561170, AW022093, BF812961, BG178669, AI432644, AW089275, AI866472, AI469764, AI633125, BE883591, BF812438, AW152182, AI887775, AW075667, AI696829, AI590043, AI289791, AI926593, AI345010, AI818353, AI539800, AI582912, AV727264, AI687362, AL500714, AL042377, AI285439, BG033723, AI884318, AI355779, AI623736, AI491710, AI431307, AI918408, AL047422, AI815237, AI567971, AW169604, AI961589, AI431316, BE786043, AI828574, AI539781, AI539707, AI885949, AW089557, AI559957, AI285419, AI500061, AI521571, AI432666, BF982540, AI469775, AL515033, AI866581, AI619502, BG109553, AI567953, AI815150, AI446495, AI55277, AI867068, AI915291, AI225248, BE891834, BG029053, AI358701, AW050850, AI698352, BF812960, AL042544, AW118353, BG113712, AI536638, AL514511, AW192701, BE048061, AL513979, AL079741, AW149925, BF812963, AI433976, AA641818, AI560184, AI499463, BF680133, AI628850, AW198090, AI916419, AI610362, AW081036, AL042572, AL513743, AI440239, AL037030, BF727352, BF814527, AL514557, BE908107, BB877142, |

| HLJD2A5 | 145 | 717449 | 1 - 836 | 15 - 850 | AI637584, BG255895, AI537273, AI579901, AL049402, AL080149, AF005067, Z98885, AX040974, AK026927, AL137539, AR011880, AX040958, AL096744, AF230496, I89947, AF090903, AL162002, I48978, Y11587, AL117457, AF090901, AF287051, AK024974, AF130066, AL122101, AL137480, AX026824, AX026823, A58524, A58523, AK026592, AR083283, AK026649, AL353957, AL389935, AL137267, AL080159, AF061981, AL359615, AR038854, AF113690, AJ000937, A77033, A77035, AJ299431, AF183393, U35846, A08910, A08909, AF069506, AK024992, AL049283, AK026959, AK000083, A08913, AF177401, AK026506, D83032, AF285167, AK027096, AF130055, AK024588, AF087943, AK027103, AL117435, AF119860, AB029065, AL137523, AB048919, A08916, AL133049, AL133070, E02349, AX020124, AK024855, AF090900, AL110224, AK026542, AL359941, S63521, I46765, AF111849, AK027160, AF116631, AK026534, AL162083, AL122049, AF119899, I33392, AK026642, AF143723, AL137271, AK026744, AK026630, AL133075, AB052200, AK000391, AF004162, AL133113, AF130110, A03736, AF182215, AF104032, I48979, AK026086, AF116609, AK027164, AB038698, AF130082, AL080148, AF047716, Y10823, AF119865, Z82022, AK026749, AX019230, AL133080, U30290, A08912, AF019298, X82434, I89931, AL137478, AK026885, AL137459, AK025119, AK000257, AL122100, U87620, Y14314, AL050393, AX019229, AK026462, E12747, AK025889, AL389939, AK026408, AR087170, AF090934, A65341, AK025339, AL050149, I09499, AL133568, AL137560, AF155148, AF314091, AF113019, AK000418, AL390154, AK025632, AL049300, AL162062, AL023657, AL080126, AK000653, AL133112, AL110280, M92439, AF081197, AF081195, AK026647, AF067728, AX042059, AL359583, AF130105, AL137533, AK025465, AL389982, AL122121, AF106862, AF271350, AK000310, AF091084, AL050277, AF116676, L13297, AL359596, AF126488, AF185576, AL137550, AK026600, AF116682, AF175983, AK026532, AL133560, AL122110, AK026533, AF1I7959, AK027113, Y16645, AL137557, AF119875, AL049430, AB050510, AL137530, AK026045, AF141289, AF119909, X63162, AF119859, AK025092, AF153205, AL117460, AL133557, AL049347, AL110221, E06743, AK027142, AK026855, AL353940, AL122118, AL050138, AL133606, AJ005690, Y10655, AL137283, AB051158, AK000432, AK000103, AK000212, X84990, AK025435, AB052191, AL137488, AR034821, AL137476, AF130059, I00734, AF002985, AF119337, AK027114, X87582, AF119896, AF218004, AK027082, X70685, AF116654, AJ238278, M86826, A93350, I30339, I30334, AF130077, AL137558, AK000323, E00617, E00778, AX010492, AL110225, and AF106657.

BF057682, BE551358, AI870472, BE348347, BE220620, N92013, AA481286, AA235512, D59403, W88874, AI167596, AU137366, R10048, R49500, D31111, D80100, AA236698, BF916715, AU123868, AL134153, AW392669, AL134132, AF155112, and |

HAHBC57	146	718574	1-467	15-481	AK001994.
HLYDR60	147	718768	1-816	15-830	AL518503, BE794141, BE246462, ZZ5363, BE246431, BE244577, BE393376, BE378295, BF355272, BF761359, and AC010271. BE794685, BF685787, BE559983, BF685796, BE901125, BF307363, W73305, BG032061, BE873880, BB908758, BB884244, BB383845, BF797375, BF685559, BE728296, AW247236, AW131606, BE743302, AI339295, BG250395, BF678238, BG025457, BE728684, BF945968, BG027834, W51974, AW247847, AW966049, BE222587, AW027873, AV721989, AV721557, AW721557, AW675648, W73040, W42520, AI817056, AW300280, AA121659, BF593810, AA365379, AA134508, AA524058, AA412645, AI026068, BF740089, AI480061, W16993, AA479840, BE904614, AI754885, BE834332, AI352460, BF693306, BE502119, AI363176, AA327589, BF108596, AA779872, AW673295, AA130538, AW025075, BF926042, AI022138, AA580472, AA379467, BE897396, AI300897, AI361310, AI338260, AI167748, AA535710, AI355996, BF196715, AI421227, AI797313, AA479718, AA536001, AA962145, AI085885, AI220550, AA373842, W42443, BE048034, AI35751, AA364113, AI312029, AA719318, AA412522, AV709718, W27857, AA719209, AA471180, AI309990, BF575516, AV706626, AI439502, AA215620, BG178778, W48677, BE699918, AW438416, AW015615, H38544, AA733051, AW963938, AA626066, AI648361, AA852416, AA770281, F35909, AA747411, AI818184, AA094707, AD263330, AW009191, AA215438, AA996110, AD241132, AI906614, BE832963, AW075282, BE170593, AF151888, and AL121938.
HCHMQ09	148	719977	1-455	15-469	BE613615, AK025890, AK025426, and AB052134.
HADMD75	149	720237	1-473	15-487	H29006, AA533117, AW409667, AI341147, AI681129, AI433410, AI955317, BF058231, AW341107, AU154665, AI885266, AI027623, AI692534, BF061372, AI808909, AA099037, AA778251, AA923181, BF222564, AI276678, AW474492, AU160729, AI986154, AW135263, AW968197, AI420387, H09118, AA659407, AI347168, AA404602, AA905366, AA868124, AV722317, H11272, BE300278, AA503263, AW137535, AA365338, AA402925, AA404732, AI675497, AA468344, AA405418, AF116574, AB014534, AK024064, and AF116573.
HKADW47	150	720269	1-684	15-698	AW502825, AL133572, and AB031230.
HFAUL30	151	721084	1-598	15-612	BF237693, BF237493, BE910607, AI432454, AW081785, AI436367, BF107426, AI191303, H27059, AI797479, AI188727, AI554783, AW970445, AA513753, AI090223, AI833007, AI886832, AA927473, BF764960, AA400632, F26406, AI148002, AA676886, AI142293, AA740345, AI815728, AW955899, AA536076, R07547, BE408046, BE276764, AA400317, BF944449, AI336523, BF025828, AA978356, AI017725, AA468753, AA639692, AV701120, BE615920, R07494, AI128273, AA724081, N41692, BF378717,

Clone	No.	ID	Col	SEQ ID	Accession Numbers
HKADD23	152	721126	1 - 632	15 - 646	AI879456, AI500369, AA252085, AA368986, AW368694, U75998, AW363134, BB695889, AA633704, AI815926, AA947905, AA199605, AA838338, AA707248, AA931186, AA670492, AA811357, AF202331, AW225341, AA542849, AA353038, BF978324, AF261688, and AC007400. BF315291, BE267287, BF315497, BE409386, BE727973, BE547473, BE254803, BE903798, AW958022, BF211629, AV742567, BF030620, BF129983, AW161511, BE886469, AA156149, BF242212, AA461616, BG167446, R20826, BE314226, BG253099, AI738546, T32235, AW993447, AA318338, R20384, AW957658, AV711296, BG110799, BG105200, BF509227, BF058787, Z45686, AA453377, AA328523, BF105125, R14248, AA075653, H10803, T30405, AW027919, AA482042, BE159472, BE159566, N55717, AA453972, AV712723, D58774, AI952258, AA453279, R60405, AA902471, BF208352, AW009749, BE904453, BE080502, AA461443, AW248974, AA236036, BF958143, BF229761, BG000176, BE699400, W58220, BR447253, AI088211, AV714273, AW768492, AF151826, AK025884, AF037601, and AL137283.
HB8MO09	153	721141	1 - 508	15 - 522	H23031, AA331581, BF366206, AA332819, AW938036, AL352979, AL356020, and AF045022.
HB8FL67	154	721418	1 - 579	15 - 593	BF795551, AV750730, AU127443, AW504749, BG119102, BE392473, BE540551, BG177251, BE018501, AU124097, BR589465, AI000771, AW613130, AA860505, AI637664, AA385917, AA884192, AA810287, AK022818, and AK022558.
HEOOA49	155	722648	1 - 587	15 - 601	R15032, AL534035, and AL536176.
HMSIH49	156	722943	1 - 588	15 - 602	H85811, AW803024, R85057, BE260893, BF919286, BF897158, BF762192, BF762184, AA078293, BF910909, BF822246, BF379108, BF316947, BF935452, BF999044, BF814195, BF822246, BF904758, BF985732, BF919287, BF814194, BF897159, AW800319, AW800296, BF326439, N43800, AF208291, AF207702, AC073184, AF170301, AF273680, AF208292, AF170302, AF144573, and AF077659.
HARAX45	157	723491	1 - 1318	15 - 1332	AA057431, AW960708, N32151, AI125765, AA436463, N36198, AI082017, AA047763, AI806698, N24164, N24756, N22835, AI092759, AA318287, N31576, AI216856, AI082301, AA015986, AA054280, AA609296, W96296, AA436511, N72140, W00409, AA490273, AA490373, AX032551, AX032553, and AF071787.
HDTES50	158	724196	1 - 423	15 - 437	AW340512, AI807894, AW963850, BE885860, BG105462, AW082409, BF351584, AW054749, BF508549, BF508665, AW593064, BF365625, R94399, AC008772, and AC025442.
HKGBC30	159	724352	1 - 661	15 - 675	BG035611, BG035535, BG166365, BG177010, BG178383, BE748164, BF031940, BF576496, BF667259, AW957446, BF970907, BF969397, BE737557, AA195158, BG029795, BF989378, BE737837, AA243408, BF672780, W42956, BE784012, D79834, D79740, BF742804, AA456700, AV688175, AV692424, AI337976, BG122569, AA456532, W78894, AA397777, AA242916, AA373082, H79467, R80629, BF516139,

				D79679, BF131434, BE772150, AA304747, AW846336, AW375604, AI961425, AW959662, BF036652, AA160349, AA195029, AW375609, AW375470, AI826719, BG113642, AW751979, BF909045, W25422, AA159869, AI078789, BG251904, BF909852, BE645639, BF909048, BF908167, BE738443, H79246, AI279715, W47528, AA731913, AA723821, AI271712, W84668, AI274822, AI276459, and AA478098.
HKIXO37	160	1 - 486	15 - 500	AA258991, AA287202, AA148138, BF513439, H44277, BE873001, AA134264, AA459315, BE244273, AW294863, AW798207, AA278370, AI566279, AW968424, AA278138, AA769400, AW968318, AA742355, and AK027028.
HTLFI39	161	1 - 571	15 - 585	BF753854, AF053356, and AF174604.
HEQBJ81	162	1 - 1417	15 - 1431	AL526015, BE902251, AL535577, BG119712, BF795162, AI972730, AI670995, BE385522, BE781482, BE867114, AI675678, AA399402, BF131361, AL525964, AI936663, AI805772, AW963715, AW005423, AI884407, AW083827, AW954601, BF196259, AU131935, AI933357, BB967468, AI277095, AW276015, AA447620, AI697985, AI912309, AA233630, AA069925, AA448020, AI192598, AA947274, BF511366, AI201913, AW675389, AA422152, AA448454, AU076532, AI199457, BE770857, AI222722, BE221191, AI933308, AI285314, AW299680, AI933319, AA009713, AI039091, AA694501, AA594398, AL535578, AA156783, BE549586, AA599751, H80269, AA070017, AW276004, C02912, AI498681, AI273260, BF448335, BF755788, AA938654, AA398362, AI564858, AW081385, H80365, BF433555, W23160, AI433696, AA635653, H09156, AW611985, AW512416, AI003286, AU153586, AI38001, AA350419, AA298504, BF885316, AA827591, AA809864, AA460451, R40317, AA297589, AA463393, AI261957, AI264460, AA297851, AA91627, AW952374, AI122589, AA809865, AA100151, AA338738, R44669, R13235, AA352547, BR476212, AA555202, AA325687, R41569, AW162831, AI940474, H09213, AI940457, AA082600, AI940491, BF932644, AI940480, AA302916, AI267918, AW952768, BF001386, AI473741, AW779351, C03526, R19419, AA009823, AI352026, AW301607, AI940485, AW379612, AA156852, BF340250, BF062888, AI189426, R36750, AW875742, R15147, BF922047, AW875677, AW875689, AA666086, AW162723, AA340305, AW387133, AA471272, AW373384, BF247476, AA091173, AL040390, AA678873, AA987875, AI923061, AI383804, AI360195, BG257545, BE011885, AI888956, AA437293, BE966404, BF796402, BG033906, AF040707, AF131207, AF040708, AC002481, Z66370, AK026603, AF254119, Z48796, A49118, AL137555, AK025549, AR008521, X69711, AL133093, AK027114, AL137539, AF192401, AF192402, and AF217967.
HAGES18	163	1 - 654	15 - 668	BF966458, BF671990, BF692987, BF672825, BF126207, BF672860, BE278557, BF695073, BF576696, BF575966, BF572017, BF670459, BF576056, BF672797, BF672709, BF790889, BF671326, BF671275, BE971275, BF671388, BF671415, BF671804,

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				15 - 926	
			1 - 912		
		725822			
	164				
HHSGV20					BE222636, AI961104, BF436334, AI884733, AW246570, AW028772, AA888944, AI937479, BF436910, AI148511, R17483, AI986047, BE645600, BF958197, AI670139,

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HNBCD53	165	727386	1 - 785	15 - 799	AL520253, BG113028, BE730840, AI692661, AI990927, AW576597, AI962731, AA151527, BF434287, BE551582, AA116092, BF063262, AA131002, BB466704, AI476250, AA626414, AL520254, BF223994, BF222968, AI638682, AI916526, BB048577, AA149442, AI686680, AI935593, AI201967, AA102766, AI963503, AW081527, AA286819, AA152283, AW273367, AI417694, AA150292, AI568034, AI624896, AI004236, AI446535, AI951797, AA625892, AA152451, AA101789, AA749172, AA116091, F24340, AI766979, BF445475, BE925564, AW958934, AI266738, AA384642, AA101790, AA853900, F35702, AW594388, AW137428, AI948855, AA897651, AI950455, BF917243, AW771964, BE163846, BE163852, BE163816, BB163659, AL533758, BE393501, AI089160, AA669642, AA488151, and AK022498.
HRAAO53	166	728064	1 - 549	15 - 563	BG180300, R14303, BG180366, Z45229, AV716542, AA827229, and AW977731.
HDPGD34	167	728098	1 - 850	15 - 864	AU133208, BG255170, BF346276, BR396319, BE719458, BF326883, AW499756, AI929577, BF343013, AA331962, AW501305, BE072706, AW501302, BF365052, C18077, BF335090, BF335074, BF335077, BF335088, BF335075, BF335078, BB072813, BF335091, BE926894, AV748888, BF910717, BF373903, AW996974, BF795573, BF476128, BF476077, BF575671, BF743862, BE245226, AK001718, AL080250, and AL162046.
HLYBU12	168	728763	1 - 757	15 - 771	AV711357, AA024565, AA454227, AW450093, AA426141, AL515137, W86795, BB894727, W87294, N92155, N46587, AA025318, W03644, N58008, BE893334, BF589668, AV726302, AA453645, AA345255, AW593927, BE672946, AA812729, AI915387, AL110420, AW664342, AA122344, AW770845, BE328340, AI743045, AI869288, AW771192, AI017204, R38111, AW974592, AA174165, BE768909, BF967003, F09335, BE788737, AW263305, H63885, BE622642, AA454228, BE088462, BR436458, AW304194, AA768532, AI138879, AI860270, AL374771, AW514315, AA811368, AW451628, AA972721, AA668674, AI627681, AI138747, AF113539, AK027258, AL136504, AF225981, and AF181121.
HBONV59	169	728861	1 - 963	15 - 977	
HCWHX5	170	728903	1 - 431	15 - 445	AC034291.

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HB8DF23	171	730794	1 - 1567	15 - 1581		AI300116, BE296377, BG032463, AA908994, AI797802, AI383991, AI769393, AI377409, AI679192, W20029, AI954824, AW003222, AA423876, AI005307, AA885021, AA423838, AI590304, AA831018, AA877137, BF056260, N20924, AA830153, BF110964, AA889975, AA749009, AA261973, AI290190, AL042957, AI274997, AI761710, AI302355, AW104248, W58202, W58311, AI096394, AW015642, AA595487, BE258855, AA907686, H21773, AI632773, H21774, N91489, AA757789, AW242726, AA115494, AL042260, AI872868, AW576488, BE090133, and AL513865.
HOECO53	172	730924	1 - 426	15 - 440		H46855, AA522937, BG168461, BG166970, BG034696, BG030159, BP971167, BF968107, AW327347, AI878995, BF382241, AW161124, AY744127, BF381820, BF029990, AA285085, W31692, BG031029, BG112033, BF030176, AA420715, AA305038, AA479559, AV735500, W51849, BF213193, BG113339, AA428036, AV710467, AA315675, BF793677, BF683278, BG163707, AL535052, BG028333, AA310999, BE909361, BF700007, BF977675, BE256879, AW583586, BF103812, BF183860, BG114558, BF541112, BF132139, BF184956, N98945, H49687, BF664599, BF827777, BF674463, AA121183, H50194, BF571367, BF032082, AI767547, H42256, AA298525, BE878076, BE047828, W79179, BE546966, BF213270, R96272, BF130738, AA136783, BF339338, H44205, T53397, BB879546, AA296778, AV747127, BR677752, AW083308, AA203752, AW405858, BF665269, AW081643, AW130434, AW131295, AW131303, AA479535, AI955122, AW301038, H51483, AA416837, AA082396, BB744389, T54405, BF977978, BF887309, BF887298, BF540976, BE789337, AI672869, AI422293, BE855465, AA633512, AI028278, AB51044, AI281194, AI560983, BF696827, BG149478, AA296829, BE788872, R50013, AA843796, BF084344, AI138248, AA477638, AI097413, BF381764, BE936616, C02084, R47812, AA516519, H49594, AA496596, AA563931, BF879230, R82586, AI056143, BF676451, N44055, R66527, AA297953, AW055043, BF879163, BF821422, C02981, BF218736, AA046382, AA910282, H45625, H45628, AA813514, BE220255, AI912595, AI301158, BF870347, R28130, BF477346, AI418360, BF883168, AA284914, BE826706, AA416688, AA705272, AA722082, F25958, AA055293, AI042242, AI348253, AI879494, W52111, BE826711, AI346869, AI298347, AI302881, BF700730, BF344686, T52195, BG026325, BF879420, AW799874, AI184088, AA420761, AW236255, AI814753, AA976549, W74425, BF247545, AA862704, AW438834, Z32877, AI073646, AA719502, BF792335, AA580072, AA402862, BE834154, AI718735, R66528, W04524, AV735518, F30163, AA428813, AI301336, AA496548, BF879226, AA992419, AI39223, H46769, AI666642, AA873692, AI394058, AI338648, AI64131, H50195, H42257, H44206, AX014159, and AF161372.
HDFAB91	173	731889	1 - 1381	15 - 1395		BF529864, BE901775, AI589804, BE901042, AI199313, AI636756, BF061809, AI337174,

					Accession Numbers
					AW003271, AL537767, AI363474, AI638061, BE855432, BR475260, AI653749, BE671333, BG056706, AI567434, AW235236, BF928391, R45347, BG055696, AA478099, R40001, BE551927, BF056286, AW138571, AI650862, AI202114, AI014634, AV725034, AW956241, AI263752, BF061875, T85446, AW071773, AA931156, R20686, AI220130, F11755, AA398006, T85350, T65494, Z43537, AW235434, R18850, BF949034, BF948468, BG056329, BF337317, BF530877, AA757698, BF957193, AI919390, BF963555, F09414, T65418, BB698921, BF528815, R72245, AA436146, T07423, BF957139, AW103587, AW966245, C20849, T08857, AI928679, AF177909, AB046649, AF190699, AF190091, AC008746, and AC008746.
HWLBR32	174	732236	1 - 762	15 - 776	AV727577, AV727747, AV751004, BE466427, N72652, R11459, H93882, and H56112.
HNFJE71	175	732600	1 - 525	15 - 539	BG177946, AA355750, and AL162742.
HOUHA56	176	732902	1 - 660	15 - 674	R59681, BE739214, AV653666, F11197, AL119365, Y11395, AC007970, AJ295233, and AJ131111.
HMSHT01	177	733800	1 - 1410	15 - 1424	AB00571, AW977948, BF059278, AI796954, AI147472, AA443155, BE550035, BF351043, AI042026, AI681058, BF062259, AI131220, AI459011, BF059415, AI197871, BF754233, AV686297, AW440428, AW474309, H97980, AA443154, AI744542, AA811321, AA999772, AA340754, C01465, T32373, N69094, AI655756, AV692251, T07877, AI699053, AW473679, AI914905, R33958, C15945, AV727008, AV709207, AV725904, BF360851, AW903008, AA342134, AW051949, D45335, BE079651, N94000, BE079652, BE079654, BE079653, BE706483, BE150729, BE150748, AW843293, BE150732, AA326399, W38404, AA134959, T06598, AL031670, U91326, AP000008, AC004955, AC007050, AP001713, AP000036, AC007957, and AP001759.
HAPQM57	178	734582	1 - 493	15 - 507	R14061, BF508040, AI521991, AA765567, AW083045, AA704823, AK000761, AK024668, and AF252293.
HSLJK58	179	735584	1 - 1152	15 - 1166	AW378251, BF349814, AA687791, BF739001, AW378183, AA661723, H61383, T88677, AA443169, H62404, AW339864, AA458622, AA252063, AI129690, AW960791, AB006755, AB006758, AB006756, and AB006757.
HSLHL67	180	735747	1 - 716	15 - 730	BF919975, BF884698, AL042074, AL514302, AU126919, BE541256, AL044278, AI910012, AK025896, AB020699, AC003030, AL110250, and AK001349.
HCEMF51	181	738228	1 - 1229	15 - 1243	BF346427, BE222972, AI096636, BF055324, AI202026, N36813, AI700474, BF057448, R86180, AA836670, AI950873, AA747515, AA004893, BF929417, F28396, W57715, T09465, AI032682, BF929409, N52926, AI347667, H65793, N62496, BF819684, AA037619, BF928446, H96052, AA053692, AA335101, H66550, BG013276, W22675, W57695, AI742940, AA037618, AI023952, T30975, AI053553, T35776, AI205934, AA099655, AA053250, AA053307, AA323307, AA468760, AA468791, AI190834, D58267, AA847679, AA131306, R24607, AI537601, R34823, H80658, AA468740, N79396, AA004617, AW592215, W21585, BF507721, R24507, AA419572, C18786, N46031,

Name					Accessions
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HTHCV59	182	738569	1 - 380	15 - 394	BF724366.
HCHCII2	183	738911	1 - 644	15 - 658	AI814233, BE789008, AI923689, H22593, AI924315, BB893732, AI672395, AW003558, AI139636, AW001296, AA341901, H52836, AA610203, BE292891, AI283870, AI950194, AA581497, AA772635, H20778, AA632417, AI982883, AW014256, H52837, AA401724, and AF191740.
HOEAU34	184	739003	1 - 933	15 - 947	BE785762, BF034740, AW291367, AI952290, AI224111, AI685688, BE884900, AW589720, BE879572, AA938159, C75518, AI917337, AA515763, AI672754, AI621127, AA025315, AA626110, AI280349, AA969438, AW593805, AI672755, BG180786, BF827581, AA604068, AI419267, AW468928, BF827580, AI376319, AW878491, BE046125, D56320, AW601519, AA024562, AI459035, AW796648, AA905143, AW363984, BF794861, AW173597, T10751, AI858736, BF513839, AI583886, AL035423, AL050405, AF151837, AL109799, and AF078865.
HFASN59	185	739048	1 - 472	15 - 486	W72633, W85825, AW292870, AI566776, AW300800, AA704967, AW769522, AW270719, BF056849, AI933210, AI955865, AI139323, AI970515, AW008498, AA102083, AV707325, Z40506, AI634473, AI637497, BE855675, BF794262, BF794268, W21929, AL161954, and AB033092.
HLHCU82	186	739503	1 - 589	15 - 603	W81266, AV715086, BB886885, AU129709, AII47438, AW958065, BE748304, BF924130, Z43756, AA076164, BG257398, BE748368, AW900549, T30492, BF963791, R31521, R39748, BF747729, AA164492, AA164408, AA165265, BF963446, AW169232, AA362001, BF961893, AA164486, AW857222, AV715737, AA169420, AA286803, R24661, BE548583, AA173493, AL049970, AK001522, AX014818, AF081567, AX015051, and AC004073.
HSDIN50	187	740786	1 - 3289	15 - 3303	C16311, AV744803, AA617936, C16288, C16312, C16299, AA378304, AI908796, T03242, D57193, A10277, and E00105.
HMAFMO 5	188	741055	1 - 830	15 - 844	AL135000, BE615660, BE615163, BF591100, BG031141, and AI004500.
HKAAA18	189	741128	1 - 615	15 - 629	BB886885, AI147438, AV715086, W81266, AU129709, Z43756, BE748304, AA076164, BF924130, AW958065, T30492, BE748368, AI312945, AA173504, AI826803, BE865502, AI984591, BE504702, BF963791, AI692671, BF033188, BG166939, AU151786, BE748892, AI691035, AW188216, BG257398, R31521, BF747729, BG252418,